

AMERICAN BEE JOURNAL



1954

December

Vol. 94

No. 12





Is Christmas Shopping A Chore?

It's often difficult to find an appropriate gift. But, if you're looking for a gift for a beekeeper friend, here are some gift ideas that should ring the bell. Some are necessities—some make beekeeping easier. Check this list for ideas:

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- Dadant Foundation
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- Bee Books
- Hive Tools
- Bee Veils
- Bee Gloves
- Honey Tanks
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THE AMERICAN BEE JOURNAL

Vol. 94, No. 12

HAMILTON, ILLINOIS

December, 1954

Editor — G. H. Cale

Associate Editors — M. G. Dadant, Roy A. Grout

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*We appreciate the opportunity the
Holiday Season brings to say, "Thank
You," and wish you*

A
Merry
Christmas

Leahy Manufacturing Co.

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*"His name shall be called Wonderful,
Counsellor, The Mighty God,
The Everlasting Father, The Prince of Peace"*

—Isa. 9:6

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wishes you a
Happy and Joyous Christmas.

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Italian Queens and Package Bees.

OUR COVER PICTURE

The Christmas scene this month is from J. C. Allen and Son, West Lafayette, Indiana. Scenes similar to this will be repeated at this season all over the country. The editors and staff of ABJ wish you a Happy Christmas and Joy in the New Year. We hope you have enjoyed reading the Journal as much as we have enjoyed putting it together, and that next year will prove even more interesting to you.



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*The Merriest Christmas
and
The Happiest New Year
Is -
Our Wish for You
Also
A Grateful Thank You
for
Your Patronage*

* * *

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Manufacturers & Jobbers
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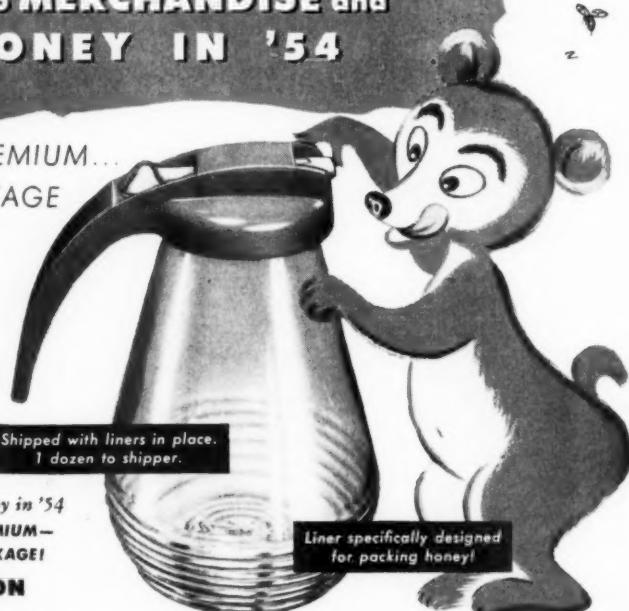
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HAMILTON, ILLINOIS

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SEASON'S GREETINGS

Another year passes off our stage of action. With its ups or downs, we should be better prepared to face the years ahead courageously. Bees have a way of making us look forward and upward, though we sometimes see dimly, we are taking our cue from them in making our plans to serve you better in 1955 than ever before. We want to thank our many friends for the privilege we have enjoyed in serving you in our humble way through the years. In the Holiday Season may your joys be full, and your hopes fulfilled.

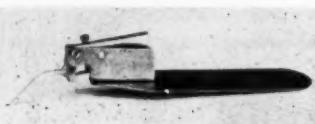
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Happy New Year*

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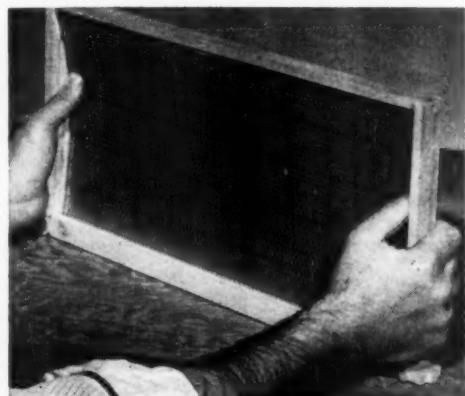
MARSHFIELD, WISCONSIN

Wishes to extend to everyone everywhere their Very Best Wishes for the Holiday Season.

May the New Year Bring
Health and Happiness
to You and Yours.

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Hamilton, Ill.

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Write for prices on package bees, either Italian or Caucasian.

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American Bee Journal

Hamilton, Illinois





S WE SEE IT

EDITORIAL

Campaigning . . .

Since October was our honey promotion month, it is interesting to know that many state and other apicultural groups are extending the campaign further into the fall and winter period. Editor Banker, in last month's Panel, expects all of us who have to do with honey distribution to help keep the ball rolling. The National Cranberry Association has developed several tie-in campaign periods for cranberries, one for the barbecue months of July and August, another for chicken and cranberries, and an award of merit campaign to Ocean Spray brokers to increase their incentives in distribution. A September estimate of total Ocean Spray sales indicates a 48% gain. Now that we have one definite promotional period, let's develop specific tie-in campaigns over the year too. We have made a start but let's not be satisfied.

Convention Time Draws Near

The annual convention of the American Beekeeping Federation will be held at the Sherman Hotel, Chicago, Illinois, January 26 through 28, 1955. Business meetings of this and other organizations will be held the day preceding the convention program and the day after it. It is customary that other organizations associated with the bee and honey industry also meet during this time. These organizations include the American Honey Institute, National Honey Dealers and Packers Organization, Bee Industries Association, the Apiary Inspectors of America, and the National Honey Council.

This meeting is of sufficient importance to you that you cannot afford to miss it. At this meeting, the future program of the industry

will be discussed, given serious study, and finally determined. You make your livelihood from keeping bees or from some phase associated with beekeeping, therefore you need to be there and take part in the proceedings.

The convention program will largely be devoted to three major themes: Research, Marketing, and Pollination. The Program Committee, headed by Newman I. Lyle, has combed this country and Canada for the finest speakers obtainable. They are all authorities and have consented to be there at their own expense.

At the Chicago convention, you will be one of the grandest group of people anywhere engaged in a business. You will meet old friends and make new ones in three days of good fellowship and fun. A grand time is being planned for you in Chicago, at the Sherman Hotel, January 26 through 28. We'll be seeing you there.

Future of Legumes Assured

For quite some time the question has been in our minds as to whether the ever-increasing use of nitrogen fertilizers, applied to the soil in many ways by farmers, would ultimately result in farmers growing less acreages of legumes. We were much aware of the extensive promotion and use of nitrogen fertilizers which, of course, is backed by big moneyed interests.

Dr. Alexis C. Bashaw, Texas Agricultural Experiment Station, Department of Agronomy, College Station, speaking at the recent meeting of the Texas State Beekeepers' Association, asserted that the future of legumes is assured. As we intensify good farm practices there will be an ever increasing acreage of legumes grown. He also pointed to the problem of what to do with acres made idle by controls on price-supported crops, where planting of legumes is being recommended.

Dr. Bashaw stated that you can put fertilizer on a piece of land all day long, but if the soil is compact, it won't do much good. The deep

root systems of legumes add nitrogen and organic matter to soil and leave the soil open so that moisture can trickle down, instead of running off the land. In his opinion, there isn't a more economical way in the world to improve soil than through use of a good legume.

While these words should assure beekeepers that the future of legumes is bright, they are reported here to give you information with which to discuss such matters with farmers and others interested in agriculture. Nitrogen fertilizing is a good agricultural practice and highly beneficial in increasing production of crops, but it won't put organic matter in the soil for good soil tilth, nor open up the soil for retention of moisture, nor act as a good ground covering conserving the soil. It takes a good legume to do that!

Holiday Greetings to All . . .

The staff of The American Bee Journal is happy to join others in this issue in wishing one and all A VERY MERRY CHRISTMAS AND A HAPPY NEW YEAR! We hope that Santa fills your stocking clear to the top and that you have a jolly good time over the holidays.

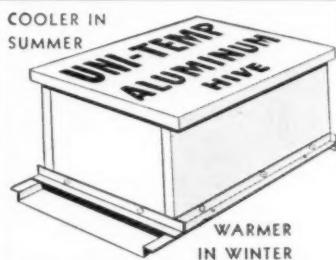
Christmas is the time for giving and good cheer. It is a time when gifts of honey, beeswax candles and honey-recipe books can make many new users of the products of the hive whether they be your own gifts or attractive gift packages purchased in some food store. It is the time when the staff of The American Bee Journal promises to give you only the best in good reading about bees and honey during the coming year.

We face the New Year with enthusiasm believing that it is full of things that will be better for the honey industry. Plant and moisture conditions generally are good; pollination as an agricultural practice is destined to assume new importance; and organizational efforts to make possible increased consumption and sale of honey are underway. We believe yours will be A HAPPY NEW YEAR!

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Custom Rendering
Bleaching and Refining
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both plain and wired.

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HAPEVILLE, GEORGIA



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FLOWERS' QUALITY ITALIANS
We thank you for the large queen and package business given us this past season. We are preparing to serve you better next season with more and better queens, since we have one of the best queen breeders anywhere.
Let us hear from you early because we are partly booked now.
FLOWERS BEE COMPANY
Jesup, Georgia, U.S.A.

**Package Bees & Queens
"ITALIANS"**
Quality Does Not Cost—It Pays
The Wilbanks Apiaries
Claxton, Georgia

— 75% —

We expect 75% of our 1955 orders to be booked by January 1st. We specialize on truck shipments.

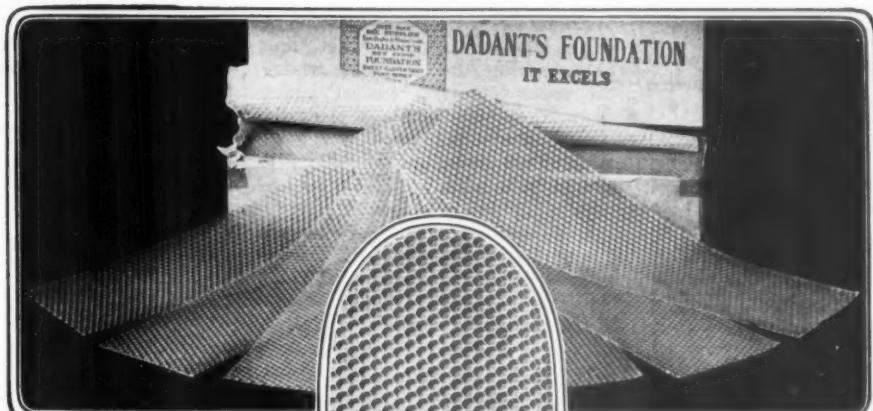
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WEAVER APIARIES
Navasota, Texas

Caucasian

1955

Packages and Queens
D. T. WINSLETT
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**Dadant's
Supreme**

**Super
Foundation**

The kind that will give you high quality comb honey, either section or bulk. The biting quality at the base of honey which folks eat should be so much a part of each mouthful that the wax crumbles under the tongue; delicate, tasty, downright good. That is the quality you get from Dadant's Supreme Super Foundation so customers always come back for more.

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HAMILTON, ILLINOIS

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Panel for December

Short Cuts in Management

Troy H. Nance, California

In my experience, the greatest over-all savings in labor, as related to the whole season, is getting young queens into your production colonies as early in the season as possible. I wish to stress and restress, as other beekeepers have, that the colony morale is better, colonies will stand more crowding meaning full, compact supers, few drones, and little if any labor in swarm control. Here in northern California a simple labor saving method is that of requeening with a cell if you are supplying package bees. Most of the bees are shaken out of the hives at the time of the so-called "last shake." Old queens are killed as the drones are screened out, a ripe cell is given five or six days later, and a check is made in about two weeks. At that time the two-story hives are "hefted" for stores. If there is the telltale pile of executed drones in front of the hive, no further checking is necessary unless you want to put on excluders. If the hives were well filled with brood and honey before shaking the percentage of matings is usually high. The hives that "missed" can be restocked with brood and a young queen.

Herbert K. Studier, Minnesota

Here are a few short cuts around our honey house. In 1950 we built a new, modern building. Into it we incorporated an enclosed "lean-to" or built-in loading ramp. We can back into this so the bed of our truck is level with the honey house floor. Supers are stacked on pallets and a rubber-tired cart is used to wheel as many as 7 or 8 empty and 5 full supers. Barrels of honey can also be loaded with ease with our new barrel cart. Another big labor saver is our homemade spin-drier (a 45-frame extractor closed on the bottom with boards). We uncap into this for from one-half to a

full day, then spin for about an hour. Two men can uncapping into this drier at a time. We save entirely the drudgery of shoveling wet cappings. Two years ago we converted our boiler to automatic fuel oil control. This is a tremendous convenience and labor saver.

Robert Banker, Minnesota

One of our short cuts is a quite simple winter packing method, perhaps not adaptable to a large number of producers, but possibly of use to some. First, we have permanently nailed to our inner cover on each side a shingle strip $\frac{1}{8}$ inch wide. A piece of lath ripped in half, six inches long, is permanently nailed on the inner cover on the same end as the heavy part of the shingle, making an entrance approximately $\frac{1}{8}'' \times 3''$ in the center of the inner cover. On our last round of preparing the bees for winter, the inner cover is turned upside down, thus establishing a clear top center, winter entrance. We have made chaff trays out of old supers cut in half with a screen on the bottom. These are placed directly on top of the inner cover with the escape hole open. Moisture escapes up into the tray, through the screen over the escape hole. A reduced bottom entrance, $\frac{1}{8}'' \times 1\frac{1}{2}''$, is also left open for winter. In this manner, all colonies have the same entrance in the same position and our paper fits all colonies.

We use a staple tacker to fasten the paper and it is possible for one man to place the chaff trays and wrap 25 colonies per hour. One day this fall, with the help of my eight year old son for three hours, I packed 137 colonies. Since developing this method we have found our paper lasts much longer than formerly when the packing material was placed loose on the top, mainly because the paper is snug and straight.

We also use the shingle entrance on the inner cover for ventilation in summer. When the inner cover is in normal position for summer, we raise the back edge of the lid on top of the inner cover, leaving this $\frac{1}{8}'' \times 3''$ opening for ventilation. It may also be used for an entrance for a nuc if the escape hole is screened.

John W. Holzberlein, Jr., Colorado

It still takes 21 days to develop a worker bee, so there isn't much we can do along that line. But when one has 1000 colonies of bees scattered out in 35 yards in all directions as ours are, it goes without saying that some short cuts will have to be made if one is going to get around on time. In order to do this we follow a schedule using the outlined principles.

1. Arrange yard work so that all the yards in a certain area, or on a certain road can be worked in a single day. This saves time and cuts down mileage. Anticipate needs and carry equipment so that all necessary work can be done on one visit.

2. Two men are used as a crew or team. Two men working together can accomplish more than two men working separately, because in all our build-up operations we systematically reverse the brood chambers on each visit. With two men doing the work they can be handled in a moment. But where one man does it alone each super has to be set aside then set back, doubling the time necessary. Reversing brood chambers in itself is a short cut as it is the greatest single swarm prevention measure that we know of.

3. We try to handle brood chambers instead of single combs in our manipulations. When the top brood chamber is raised a puff of smoke is given and a glance taken at the underneath side. The whole story is

usually right there. If brood is present it can easily be seen, even the quality of the brood can usually be detected without removing a comb. The progress of swarming can be observed in the development of queen cells along the bottom bars. The presence of stores and their estimated amount can be successfully judged by the weight of this top super as well as the size of the cluster. If all is as it should be the reversal is made and more room given if needed. Throughout the summer I would say that not more than one colony in ten needs the combs inspected individually until it is time to begin removing the crop.

4. We believe that we save time in the long run by giving the brood in each colony a thorough inspection before taking off honey. Our incident of disease is practically nil, but we can still remember when it was not, and how we felt when we found that a few supers of honey had been taken off a diseased colony and mixed through the outfit. With confidence that the supers are clean they can all be stacked together and handled indiscriminately.

5. All hive equipment is handled on one level, concrete floor. It is all stacked on flats and handled with a hand truck, even to being loaded onto the truck. The inside dock puts the truck bed at floor level thus making this possible. The full supers of honey go into the "hot room" ahead of extracting, then into the extracting room where they are emptied, then on out into the comb storage area where they may again be loaded onto the truck. In this way they describe a full circle, never crossing over their previous route and never getting in their own way.

6. Extracted honey flows by gravity to tanks in the basement that are large enough to hold any day's extracting. It is warmed and clarified en route and may be drawn off and stored at the end of the day. The basement which is well drained and ventilated offers ideal storage space and is used only for the storage of containers and honey. It has an outside door at ground level which facilitates the loading of trucks at time of sale.

7. We think it saves time to keep equipment organized, and not let a cluttered up condition build up, or at least prevail if it does build up.

Each class of equipment has a definite location and is kept in it. The little time that is required to maintain this condition pays big dividends in the long run.

H. A. Schaefer, Wisconsin

We should like to emphasize the early March first colony or yard examination for food supply and to feed pollen mixture. We started primarily to feed pollen mixture beginning March first to all our overwintered bees to stimulate brood rearing, trying to get the same hive conditions Nature gives us with an early spring. It was then that we learned that the heaviest winter loss occurs for us during March and early April because of starvation. Checking the overwintered colonies for stores in March in this locality reveals those colonies using more stores than others, thereby becoming short of supplies. If not fed they would starve. With this early examination, we save many old colonies that would otherwise starve (even though we weigh each hive in the fall before packing for winter, feeding honey or sugar sirup to those underweight and making sure that colonies weigh 130 pounds or better) because some colonies consume stores faster than others. Could this be due to a better queen?

Saving these colonies from starvation saves time and stores in starting nucs to recover winter loss, does it not? What about the stores the colony had in the fall? That is also lost when the colony starves as well as the time and expense of packing for winter.

Since we began this early spring checking and feeding program we have lowered our winter loss to less than 3 per cent. Would you call this early feeding a retroactive shortcut? We believe it is.

E. A. Hogarth, Ontario

During the past few years, the cost of labor has increased tremendously. Trucks also cost more to buy and operate. Unfortunately the price of honey is lower than it was at the end of World War II.

In order to make a profit, we must try to increase our production per colony and improve our management so that less help is needed and the trucks are operated fewer miles.

Or possibly it may pay to reduce the size of the outfit so that very little hired help is required.

Every honey house should be equipped with a loading dock so that supers and equipment can be wheeled on and off the truck. A two-wheeled super truck and pallets cost very little and speed up the work of unloading supers of honey and handling it at the honey house. Why carry a super when five or six can be wheeled with less effort? When shipping the crop, sixty-pound cans and drums are wheeled on three at a time; barrels are rolled on. If there is no loading dock, the cheapest way to load honey is with a tractor and bucket equipped with a hydraulic lift.

There should be a driveway through each outyard with colonies on both sides of it. We like to keep the colonies as near the driveway as possible as it takes more time to work a yard and move equipment about if colonies are dispersed over too great an area.

When removing the crop, the carbolic method is the fastest and most economical if weather conditions are right.

Some system of walking onto the truck should be provided at the yards; a long plank or set of steps works well. A power tail gate or one of the newer mechanical loaders are excellent if the outfit is large enough to warrant the expense.

The outyards should be arranged in series so that several may be worked in a day without unnecessary driving. We like to arrange our work so that the truck is loaded both ways as much as possible. We don't like to haul equipment around more than necessary, it is piled up at the yard if we expect to need it there later.

Have a list of everything required when going to the yards and make sure nothing is left at home, it makes extra work if something is forgotten. Have a place for everything and everything in its place both at the honey house and on the truck.

In feeding, it is usually more profitable to leave enough honey for winter stores with the bees than to extract it and feed sugar sirup. We plan to keep ahead of our work and never let it run us. If we get behind it is very difficult to catch up.

---SHORTS---



Laidlaw to Brazil . . .

Harry W. Laidlaw, Jr., University of California, is now on leave in Brazil, where he will be at the University of Sao Paulo, Piracicaba, for at least six months. He will work on the genetics of the honey bee under a Rockefeller Foundation grant.

In Memoriam . . .

J. J. Homolka

James Joseph Homolka of Brownville, Florida, was born February 18, 1882 in Tesovice, Kolovec, Czechoslovakia, and passed away on September 9, 1954. He came to the United States in 1902 and traveled extensively before settling in Florida in 1914. He was a beekeeper both here and in his native land and was widely known as "Honey Jim."

New Pest Threatens Nectar Sources in Hawaii

During the past year, I have been advised by different parties that a micro-lepidopteran has invaded the Kiawe of the Hawaiian Islands and is threatening the main nectar source of the islands. It was first brought to my attention by Al Schuelke who has been operating the apiaries for Parker Ranch on the Island of Hawaii. According to Ryoji Namba, assistant entomologist of the University of Hawaii, it is widespread on the island of Hawaii and localized on the islands of Molokai, and Maui and may occur on Kauai and Niihau. No parasite has been reared from it so that it has an unchecked range of the plants it attacks. Mr. Namba states that other known hosts are opiuma (*Pithecellobium dulce*) and klu (*Acacia farnesiana*).

In this instance, this is a demon-

stration of how one little insect, so widely scattered in native vegetation as to be uneconomical to control by chemical means, can change the whole beekeeping economy of the islands, at least for a number of years. The usual trend in such cases is for such an insect to spread rapidly under favorable conditions and then for some parasite to become adapted to the pest and to gradually bring it under some semblance of control. Some of the recent trip failures on Hawaii and on Maui and Molokai might be attributable to this pest as well as to the more generally considered drought.

Fortunately, there are other sources of nectar in the islands that have not been exploited to the fullest extent and which now may help to tide some of the beekeepers over the crisis until the parasites can bring the pest under partial control. The beekeeping industry in the Islands is of sufficient importance as to justify the Department of Agriculture and the Agricultural Experiment Station to institute a project for the discovery of the origin of the pest and to search for some of its parasites as an important step in its control.

J. E. Eckert,
California

Cherries Are Ripe

One June I went to see a farmer friend to buy some potatoes. As we talked, he told me he had 20 acres of cherry trees but never got any cherries. I suggested he should do something about this state of affairs. He was skeptical, but I told him I would put 30 colonies of bees in the orchard the next March and we would see what happened.

The next spring we put in 30 hives, the blossom broke and the weather was fine and warm. It was good for four days, then cool and showery for three days, and then we had a good week. Cherry blossom is soon over, but he had a large patch of plums and apples so the bees were busy. April 15 and 16 were fine days and we put supers on 15 colonies on the 16th and 15 on the 17th but on the 19th it turned cool. On the 23rd it was fine again and we peeked at the progress. All colonies supered on the 16th were up in the supers

and doing well; none of the ones supered on the 17th were up in the supers. We learned a lesson—today not tomorrow.

The picking of fruit on small farms is casual, relying on labor calling each year and with little organization. The fact that there really might be a crop of cherries didn't stir any real preparations at this place. However, about the second week of June there were CHERRIES.

They did their best, picking 81 12-pound baskets the first day but by the end of the week they were tired and I think the marketing was not lined up properly. The plums were the same. But the farmer said, "Oh, well, the picking costs a lot of money and imported cherries ruin the market."

There must be a moral somewhere because next year our bees went to another place and when I asked our friend about his crop he said, "Well, not so good, no fruit this year." Which was queer because they had a wonderful crop at the new location of our bees.

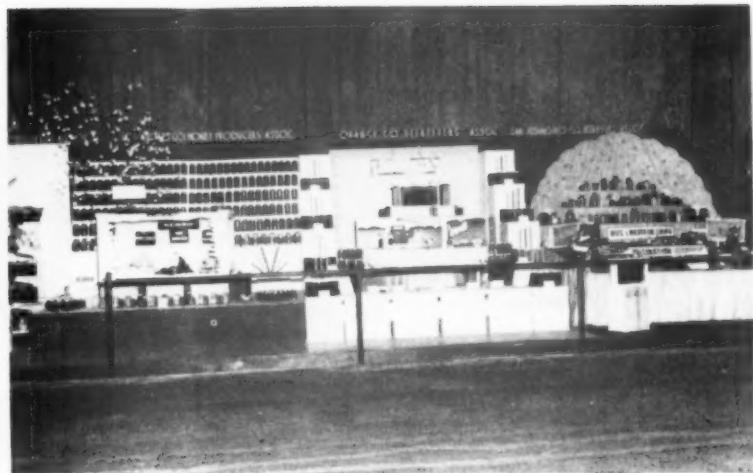
O. Robertson, England

Good Practices . . .

1. Keep bees in standard equipment.
2. Keep equipment painted and in good condition.
3. Use full sheets of crimp-wired foundation.
4. Requeen annually.
5. Examine colonies regularly for diseases.
6. Always leave sufficient stores for wintering.
7. Provide extra supers early to reduce swarming and provide more brood space.
8. Provide top ventilation for wintering.
9. Face hives "southeast," and on the south side of a hill, if possible.
10. Use a good strain of bees.
11. Destroy diseased colonies.
12. Do not manipulate hives unless there is a good reason to do so.
13. Always try to keep up with the improved methods in beekeeping.
14. Subscribe to a good beekeeping magazine.

J. W. Obenshain, Virginia

Haseman Visits University of California
—Dr. Leonard Haseman, from the University of Missouri, co-discoverer with L. F. Childers of sulfa for disease, is shown here in the experimental apiary of Dr. J. E. Eckert. Some of Haseman's first treated combs from diseased colonies are still in use and continuously free of disease.
(Photo by J. E. Eckert)



Los Angeles Exhibits—Top right, three of the five fine honey exhibits at the 1954 Los Angeles Fair. (Geo. Adamson superintendent) (Photo by J. E. Eckert)



Bee Hive Cloche—Right center, millinery display of hats (cloche for bell-shaped) with bee display as a tie-in, prepared by Ira Bowers, Decatur, Illinois. Many such chances exist for tie-ins. (Photo from Bowers)



Bee Beard—Charles Ater, Honey Hills Farm, Arenzville, Illinois, joins the honorable cult of bee bearders. He calls himself "The 'Ol Drone." Maybe that's why these man-seeking females have all ganged up on him at one time.



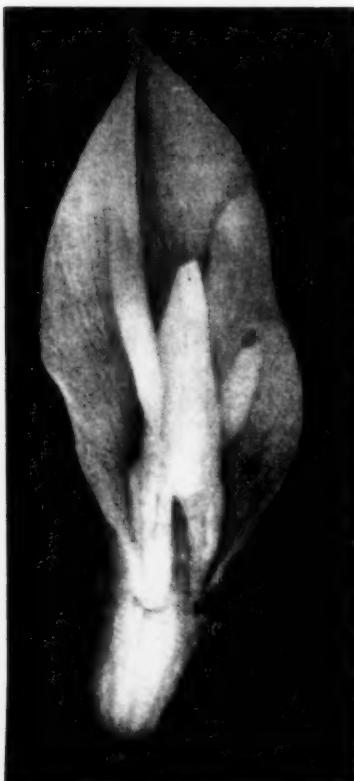
Visitors—Left to right, Arquimedes Hernandez, beekeeper from Buenos Aires, operator of several thousand colonies in Argentine; and Mr. and Mrs. Leon Grosfoquel, New Orleans, who accompanied Mr. Hernandez as interpreters. (Photo by J. E. Eckert)



E. Oertel, Apiculturist, Bee Culture.



White clover pollen grains, magnified 500 times. (Photo by Prof. Clair A. Brown, Botany Dept. L.S.U.)



The Value of Honey Bees to White Clover Seed Growers in Louisiana

by E. Oertel

U. S. Department of Agriculture, Agricultural Research Service,
Entomology Research Branch, Baton Rouge, Louisiana¹

OME producers of white clover (*Trifolium repens*) seed in Louisiana provide colonies of honey bees for pollination purposes while others do not. The writer does not know of any large scale tests that have shown either the effectiveness or ineffectiveness of colonies of bees brought to a field to increase seed yields of white clover except one reported by Lyle (1944) in Mississippi. Since the honey bee is free to fly to any nearby field or woods, the seed grower has no practical way of insuring that the bees will work the clover blossoms in any particular area. He can bring colonies of bees to the field at the recommended rate of one or more colonies per acre, and hope for the best. It is believed that calculations (given later) based on the results reported here are fairly representative of field conditions in Louisiana. They will serve as a base to determine the value of the honey bee as a pollinating agent of white clover blossoms.

Reports of cage tests by Oertel (1934) show that insects are needed to produce white clover seeds. Hollowell (1936) says that white clover "...is practically self-sterile; that is, the florets have to be cross-pollinated before seed will form." Insects are common agents of cross-pollination, so the seed producer can greatly increase the insect population of clover fields by owning or renting colonies of bees and locating them close to the clover.

The study of the number of pollen grains per white clover floret and

per pellet was made to learn how many blossoms might be visited by a bee in order for it to obtain a load of pollen. Dunham (1939) has reported the results of a similar study for red clover (*T. pratense*). Persons not familiar with the habits of the honey bee in the field might suppose that individual bees could be followed and the number of florets visited be determined by actual count. However, it is exceedingly difficult for the would-be observer to know whether the time the individual bee is under observation is the actual time it spent in the field.

METHOD:

Fifty blossoms of Louisiana white clover of the selected strain, Louisiana S1 (Owen, 1953) were used. They were protected from large insects by screened cages. Four open florets were taken at random from each white clover blossom. They were partially dissected, then each floret was placed in 0.5 milliliter of water containing a small amount of detergent and agitated to remove the pollen grains from the stamens. A small portion of the water with the pollen grains in suspension was then placed in a Neubauer counting chamber. Ten readings were made of each portion and four portions were used for each floret. The number of pollen grains in a floret was calculated from a total of 40 readings per floret.

White clover pollen pellets were obtained by means of a metal pollen trap placed in the entrance of a colony of bees. When bees pass through the screen of the trap some pollen pellets are knocked off their legs

^{1/} In cooperation with Louisiana State University.

White clover floret, magnified 12 times.
(Photo by Prof. Clair A. Brown, Botany Dept. L.S.U.)

and are held in a removable tray. Twenty-five pellets that were fairly uniform in size were used for counting purposes. Each pellet that was to be counted was dropped into a vial holding 2 ml. of water that contained a small amount of detergent. The solution was agitated well before each sample was taken. Readings were made as described above for the florets.

The number of pollen grains per clover floret or per clover pollen pellet was based on the following proportion: the average number of pollen grains per microscope field is to the volume of the counting chamber as X is to the dilution.²

RESULTS:

The average number of pollen grains in white clover florets and pollen pellets is given in Table 1.

Table 1.—Average number of pollen grains in white clover florets and in pellets of white clover pollen taken from honey bees.

Source	Average number pollen grains	Range
Wh. clover florets	2,980 + 1,275	1,320 - 6,284
Bee pollen pellets	388,250 + 17,242	225,000 - 625,000

Discussion:—At Baton Rouge fairly strong colonies of bees left from 1 to 3 ounces of white clover pollen pellets in the pollen traps per day. These pellets averaged about 0.0002824 ounces each. At that weight from 4,000 to 12,000 pellets were brought to the hive per day, plus an unknown amount that was not collected by the trap. Since each worker bee brings in 2 pollen pellets at a time, at least 2,000 bees brought in pollen if the pollen gatherers made only 1 trip to the field per day. Four thousand pellets would contain at least 1,500,000,000 pollen grains or the pollen from 500,000 florets, while 12,000 pellets would represent the pollen from 1,500,000,000 florets if the bees gathered all of it. These figures would be increased four times if Syngle (1947) is correct in his estimate that the traps were only 25 per cent efficient.

If we take the average number of pollen grains per floret as 3,000, then the bee must visit 260 florets to get 2 average pellets of pollen, assuming she gets all the pollen. If she takes only half the pollen in the floret she would have to visit 520 florets for an average load. Each floret is capable of producing 1 to 7 seeds, (Erath, 1924) but many have been found to produce only 1 or 2 seeds.

2/ The assistance of Dr. A. R. Colmer, Dept. of Botany, Plant Pathology and Bacteriology at L.S.U., is gratefully acknowledged.



Honey bee on white clover blossom.

Probably inadequate pollination accounts for a yield of only 1 or 2 seeds per floret. Wise³ found an average of about 2.5 seeds per floret. Thus on the basis of visits as given above, one pollen-gathering trip by one bee might result in the formation of 260 seeds (260x1) or even 1040 seeds (260x4), or up to 3640

it is believed that they also do considerable pollinating. White clover blossoms mainly in March, April and May in Louisiana.

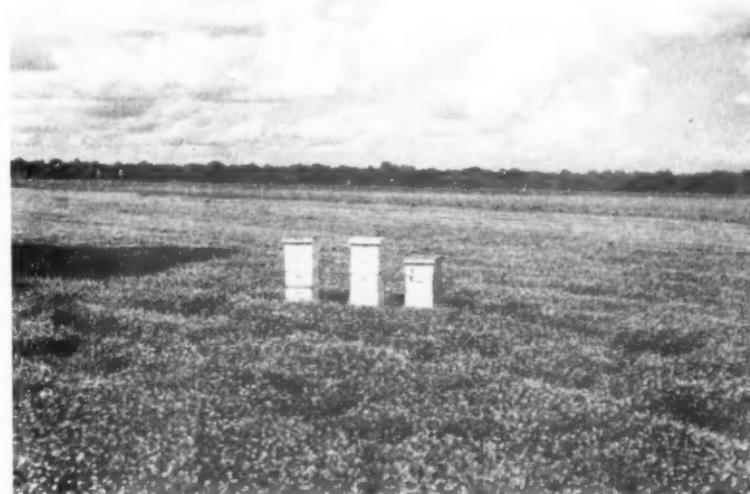
Counts of white clover blossoms per square yard in fairly abundant stands gave from 500 to 600 mature and immature blooms present. If all these blossoms would set seed at the rate of 4 seeds per floret the potential yield would be 100,000 to 120,000 seeds per square yard or from 484 million to 580 million seeds per acre (based on 50 florets per blossom and 1 million seeds per pound). This would be a potential yield of at least 484 to 580 pounds of seed per acre. Probably many seed producers will question that that much clover seed can be harvested. However, yields of a few Louisiana producers ranged from 300 to nearly 400 pounds per acre in 1951.⁴ The Crowley Branch Experiment Station obtained 4900 pounds of clean Louisiana S1 white clover seed from 15 acres in 1952 and about the same yield in 1953.⁵ It must be considered also that bees

(Please turn to next page)

3/ Wise, L. N., 1948. Variations of certain characters among lines isolated from Louisiana white clover, *T. repens*. Unpublished thesis in L.S.U. Library.

4/ Information from W. E. Monroe, Agronomist, Agric. Exten. Division L.S.U.

5/ Information from C. R. Owen, Agronomist, Agric. Exper. Station, L.S.U.



Pollination colonies in a small white clover field in Louisiana.

do more than is represented by harvest yields because of seed lost in harvesting. After consideration of various factors it is recommended that not less than one strong colony of bees per acre of white clover be provided for pollination purposes.

A combination of a heavy stand of clover blossoms, an abundance of pollinating insects, highly efficient harvesting machinery, and favorable weather for clover growth, bee flight, and harvesting will likely insure a high yield of white clover seed.

Thin stands, a lack of pollinating

insects, pasturing too close to harvest time, poor harvesting methods, and unfavorable weather are likely to produce a low yield of white clover seed.

SUMMARY:

White clover florets contained an average of 2,980 pollen grains. Pellets of pollen taken from honey bee legs contained an average of 388,250 pollen grains. Conservative estimates, based on the above figures and on the number of pollen pellets collected daily in pollen traps, indicate that the pollen-gathering bees from an average colony can initiate

the formation of $\frac{1}{4}$ to 2 pounds of clover seed per day.

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A Honey House in Virginia

by H. L. Maxwell

(Continued from November)



Dept. No. 3 where honey is packed. Area: 18x60 feet. Honey tank assembly is in background, with gravity filter overhead. Harry is standing at the treadmill where the comb honey is sliced.

In Department No. 3, the principal activity is the cutting of comb honey for placing in the containers and next the filling operation from the four storage tanks. We like to keep this room clear of other activity, since it is necessary that it be kept clean and orderly at all times as honey can so easily be abused in appearance through careless handling or the accidental inclusion of foreign matter in this phase of packing. The department is large enough to allow free movement at all times of the 5 to 6 people who can comfortably handle this operation. New containers are brought in and placed along the walls for filling only as needed. The packed honey is sealed and stored in the east end for shipping. A two-compartment sink for hot and cold water is installed in the east end and portable sinks are used to keep warm water available at each point

of operation so that each operator can quickly clean up any smears of honey. A careful operator can work in this department all day, dressed in white, and show only a minimum degree of soil. We feel at ease in welcoming visitors while packing, when we can maintain this degree of cleanliness and order.

The special equipment for slicing comb honey out of the frames into the properly sized cubes for the various container sizes is difficult to show, and is not included in the picture of Department No. 3. However, a simple description of our device begins with an oblong cutter, styled to fit just within the area of the shallow frame, which first stamps out the slab of honey, cutting sufficiently close to leave only tender comb edges on all sides. Then a gang knife, previously adjusted for correct size completes the slicing operation and thereafter the cubes

of honey are stacked for draining before being placed into the containers. Both these cutting devices are heated indirectly by steam at low pressure and the knives slice rapidly without burring or gumming the caps as they cut.

We like to pour the strained honey at as high a temperature as the comb will allow without damage. The exact temperature will vary with the time of year, the degree of coolness of the containers, the temperature of the comb honey itself and so forth. This, we think, helps retard future crystallization.

At this point, we should describe our source of steam which is used in so many phases of our processing. Our comb cutting equipment is steam heated, our flash heater is steam heated, so is our warming pan, our capping melter, and the power uncapper. We also obtain our hot water in this way. The source

of all of this steam is a compact gas-fired boiler, so small that two can comfortably carry it, which is of 3½ h.p., is fired by bottled gas, and is the most amazingly efficient and economical piece of equipment we have ever used. In fact, the cost of the entire equipment assembly—from the extractors through to the bottled product—has been more economical than we could have any reason to hope for.

We also heat Department No 2 and No. 3 by the use of unit heaters which are fired by bottled gas, and are thermostatically controlled. It is quite easy to keep these departments at the desired temperature around the clock. We have found it necessary to suspend a pan of water in front of each heater, however, in an effort to overcome drying of the atmosphere.

In Department No. 4, we store our new containers previous to use. We also label our containers before filling and our stock is kept clean and free from possible soiling or any contamination.

The office is located at the east end of the building facing the highway with passage through the container department to Department No. 3, Department No. 2, and Department No. 1, and out into the garage. We use twin doors between all departments which open to a total span of five feet which allows free movement of our floats and other equipment. Entry to the second floor, where we have 3,000 feet of floor space for storage, is by means of a stairway at the east end of Department No. 3. It is here that we store the things we seldom use, but which are valuable and this storage area enables us to keep our

first floor clear of all superfluous and unneeded stock, thus providing maximum space.

To sum up, this building has become the heart of our operation as a fairly large honey-producing project. Without it, we could not begin to compete in the open market with our product, nor could we be nearly so efficient in actual honey production, for it is here that we can work around the calendar, quite comfortably in winter, doing all repair work, or developing new features for the coming season, and thus always be ready for the seasonal work. We are as nearly self-sufficient as we can hope to be.

While the cost of this building was considerable, yet we feel we built it economically and within a justifiable cost basis in keeping with our investment in bees. The sidewall structure is frame; the exterior is corrugated galvanized metal, except the front and each end facing the highway. This is sided with natural redwood, being treated only with boiled oil. This presents a pleasing appearance and helps relieve the otherwise drabness of a commercial building. The interior departments are insulated overhead and on the side walls with fibre glass batting, and the finished sealing is sheet rock. We find it very economical to heat and easy to maintain a uniform temperature. We are fortunate in having town water and sewage, even though we are outside the town limits. We expect to install an air conditioning unit to make working conditions more ideal in Departments No. 2 and No. 3 for the coming season.

Finally, another department which is not shown in any of the pictures

is located at the back of the building. Here we have a 10 h.p. steam boiler which is used primarily for cleaning purposes. For example, our frames from which chunk comb honey has been cut are most easily cleaned by placing them in vats and releasing live steam upon them. The steam quickly cleans the frames completely of wax, honey and propolis. All of the wax is salvaged as it drains off into pans from these vats. The wax salvaged nets us a nice profit above the actual cost of this operation. We further render our slum from the capping melter by placing it, as well as accumulating old combs, into burlap bags and submerging these in a vat of water which is also boiled over a period of time by the release of live steam. The following day the solidified wax can be recovered from the top of this vat. We estimate that we recover at least 90% of our wax from these sources.

We operate in a bee territory that is extremely marginal (in a state where commercial beekeeping is virtually nil) because of the general distribution of commercial orchards and the summertime sprays which blight over 60% of the best bee territory; with short crops that seem to be becoming commonplace; plus rugged competition of distress lots of honey that are shipped into our market; and an apparent deteriorating consumer demand for honey, mainly due, we think, to inferior grades being sold under the label "pure honey." If it were not for such a plant as we have described above, plus the other manipulations and short cuts we have effected in production and also in marketing, we feel that we would have "given up the ghost" long ago.



Richard LeBlanc Wins In Better-Baby Contest

Two pictures of Richard LeBlanc, Jr., one with his mother, Mrs. Richard LeBlanc, daughter of Mr. and Mrs. E. L. Garon, Donaldsonville, La. Richard, Jr., 23 months old, won a loving cup for highest score in a Better-Baby Health contest last October. Since his birth only honey has been used in his formulas. Two little brothers have arrived since and they also are thriving on honey. They consume about two quarts of honey each month.



Bee Line to California

by Clyde Arbuckle

(Reprinted from "Westways" September 1952.
Copyrighted 1952, Automobile Club of Southern California.)

Under sail from New York to Panama came 12 hives of bees. Across the Isthmus by bungo and pack mule they jolted, took ship again and at long last just enough bees to make one full hive reached San Francisco.

We have no record of a honeybee anywhere in California prior to the gold rush. This "foreigner" did not come here until long after John Bigler was elected governor, and miners had begun to desert the diggings for farms. And even then it apparently got off to a false start.

On July 1, 1852, the Daily Alta California announced that W. A. Buckley of Newburgh, N. Y., had arrived in San Francisco with a hive of bees "in fine working condition." The editor hailed the event as "the first importation of the honeybee to these shores..." Probably it was the first "on the North Pacific, east of the shores of Japan."

Buckley had left New York on the steamer Sierra Nevada with three hives, bound for Aspinwall (Colon), Panama. He lost one hive "on entering the tropics," and another on the Isthmus when the wax melted and destroyed the bees. The third hive, carried across the Isthmus on the backs of natives, got to Panama City, and from there via the steamer New Orleans to San Francisco.

What happened to the third hive after that is a mystery. Perhaps Buckley got an "idea" from the Alta's story and unsuccessfully played for higher stakes.

The paper was not content to laud his enterprise and let it go at that. It hoped he would make a "careful disposal of his little charge, and on no account suffer the hive to be taken out of the country." Then it

recalled that the Honolulu Agricultural Society had recently offered a premium to the first successful importer of bees to the Hawaiian Islands.

In any event, the effective introduction of bees into California had to wait until the following spring, though it stemmed from something that happened considerably earlier.

While stationed on the Pacific Coast in 1847, Commodore Robert F. Stockton bought the 1,939-acre Rancho Potrero de Santa Clara, between Santa Clara and San Jose. On January 1, 1853, "in New York & Philadelphia," he agreed with George W. Aspinwall, Christopher A. Shelton and I. Hildreth to establish a nursery on it.

Shelton, who had a quarter interest in the venture, started for California via Panama soon afterward. He brought with him several nurserymen and a large consignment of nursery stock.

At Aspinwall (Colon) he encountered an unidentified New York apiarist bound for California with 12 hives of bees. The man had become disgusted with "the experiment," and offered to sell all 12 hives for \$150 so he could go back home. Shelton snapped them up—then wondered for a while if he, too, had been "stung."

Transporting bees across Panama at that time was not easy. They traveled part way by rail, part by bungo up the Chagres River, and the rest by pack mule, taking from three to five days to cover about 50 miles. They suffered from tropical heat and lack of air. Frequent jolting angered them. Scraping and whacking of tree branches on the sides of their hives as they moved along jungle trails kept them tense.

And death took its toll on the

3,500-mile steamer voyage between Panama City and San Francisco. When the vessel reached the latter port early in March, only enough bees remained in the 12 hives to make one full hive.

Shelton rushed the survivors to Stockton's ranch at San Jose, where they quickly recovered their strength and threw off three swarms the first season. But he did not live to see the increase. On April 11, about a month after his arrival in California, he left Alviso for San Francisco on the steamboat Jenny Lind. An hour later, the vessel's overstrained boilers exploded, killing him and some 30 other persons.

The following December, some of Shelton's bees were sold at public auction to cover the costs of settling his estate. The probate proceedings show a Major James Patrick buying one hive for \$110.

Shelton's success in introducing bees into California attracted much attention, and word of it soon went east. In the fall of 1855 a New Yorker named William Buck left his home state with 36 hives and managed to reach San Jose with half of them. Then, elated with his success, he hurried back east, gathered up 42 hives, and headed west again.

This time his casualty rate ran much higher. He reached San Jose with only seven hives.

The cause of Buck's losses is hard to determine. They surely were not from excessive handling or riding muleback through Isthmian jungles. The Panama Railroad, completed early in 1855, had cut the crossing of the Isthmus to three hours.

But with honey selling from \$1.50 to \$2.00 a pound, no California beekeeper lost heart. William Briggs of San Jose came in right behind Buck with just one hive and got seven

swarms the same season. And well before this—in the summer of 1855—A. P. Smith, a Sacramento nurseryman, took the first bees into the Sacramento Valley. He got them in San Jose.

For some unknown reason, Smith's bees soon died, and many people concluded that bees would not do well in that part of the country. But John S. Harbison, a recently arrived beekeeper from Lawrence County, Pennsylvania, thought otherwise. He got a hive a short time later and proved that, with proper care, they would do as well in the Sacramento Valley as elsewhere.

Harbison had come West in 1854, hoping to better his fortunes after a disastrous drouth at home. He soon gave California beekeeping the boost that it needed to become an industry. His scientific mind overlooked nothing.

In 1857 he invented the California hive, which, in its day, topped everything in the field. In 1861 he published his Beekeeper's Directory of the Theory and Practice of Bee Culture. This 424-page volume covered everything from hive building and bee diseases to pasturage and breeding habits. It even included an illustrated chapter on the Italian bee, the greatest of honey makers, which had come to the United States only a year or two earlier.

Harbison personally conducted his early importations. He went east in the summer of 1857 to obtain a

stock of bees from his own apiaries in Pennsylvania. On November 5 he sailed from New York for California with 67 hives. When he arrived in Sacramento on December 2, his bees had traveled 6,300 miles, the greatest distance ever traveled by bees up to that time.

The trip was further highlighted by a novel experiment at Aspinwall. Reaching that port too late to catch a train for Panama City the same day, Harbison opened his hives toward evening and let the bees "fly around" until dark. This exercise "greatly relieved them, and contributed to their health during the remainder of the voyage."

The only drawback was a high casualty rate that had nothing to do with transportation. Eggs of the bee's natural enemy, the wax moth (*Galleria mellonella*), had got into the hives before leaving Pennsylvania. And tropical warmth had hatched them into larvae that completely ruined five hives and weakened enough others to make a total loss of 18.

Harbison went east again in September, 1858, and was back in California the following January with 114 hives—46 from Pennsylvania and 68 from Illinois.

Meanwhile, other beekeepers had begun to do things on a grand scale. Between October, 1858, and April, 1859, more than 1,000 hives of bees left New York for California. During the winter of 1859-60, more than

6,000 hives were shipped. All of them traveled by way of Panama.

Then came the accomplishment of accomplishments—the first bees "came across the Plains." A Mr. J. Gridley left Michigan with four hives on the tail end of a spring wagon in April, 1859. Besides providing them with plenty of food, he stopped from time to time at some favorable spot enroute to let them fly awhile. Both he and his bees arrived at Sacramento the following August in good condition.

Completion of the transcontinental railroad in 1869 greatly facilitated bee shipping to California, and in 1873 our old friend Harbison shipped to Chicago the first carload of honey from this state.

Since then, the number of California beekeepers has increased to about 12,000, with several million dollars invested in close to half a million hives of bees. Production of honey, according to the State Department of Agriculture, has leaped to more than 20,000,000 pounds a year, and in 1951 led the nation with 28,246,000 pounds.

This is a far cry from the 40 or 50 pounds that probably came from the survivors of Christopher Shelton's 12 hives at San Jose 100 years ago. It proves that the ancient poets who marveled at the industry of the bee had good reason to do so.

(This article was sent to us by Emil Kraut of Mira Loma, California.)

Plowshares and Pruning Hooks

by G. Theodore Freihofer

T HAS always been my steadfast contention that an aspiring novice entering the vast, intricate, uncertain field of apiculture, can be likened to the country-minded gentleman from the city, who, after reading a series of enlightening success articles on agriculture in a current magazine devoted to rural life, becomes imbued with a back-to-the-soil movement advocated by the magazine, and spurred on by the impelling force of his enthusiasm, hastens out from his customary abode and buys an old, abandoned farm, expecting to find it a land flowing with milk and honey, and blossoming like the proverbial rose.

On the contrary, however, our erstwhile city man, instead of being amongst blooming roses, and wading around knee-deep in milk and honey, finds himself surrounded by an expanse of dusty, barren land; some rocky, some rolling, some good, some bad; with a few thistles, here and there, a few thorns, now and then, and maybe a little stubble in places, to boot.

Our new farmer, realizing by now that he is in a quandary, with doubt and uncertainty on every hand, turns away from his anticipated paradise, seeks out a neighboring "tiller-of-the-soil" and asks for advice.

"Kind o' tough sleddin', fer city

folks," the good neighbor tells him. "I happen t' know thet farm; pretty well run daown. Probly take a few y'ars t' bring it back; but it c'n be done, if yer go at it right. Do a little one-man farmin', t' begin with. Euy yerself a scythe 'n' git the jump on old Father Time. Cut aout the thorns 'n' thistles 'n' give 'em t' yer mule; he'll like 'em t' tickle his palate with. Then buy a caow, an' a pig or two, an' see haow quick they'll be a-rootin' fer you." (And also for themselves, by the way.)

And that's about the tenor of the way it pans out in the case of the novice in apiculture also; a tough, rock-hard proposition beset with many obstacles in the way of success, which, in order to surmount, may require the strategic use of unethical, and sometimes even drastic measures. As Les Berwick* has

(Please turn to next page)

* Les Berwick. My leading fictional character in one of my stories.

so aptly said: "Yer don't ness'arily hafta be in the cattle business, t' hafta take the bull by the horns!"

My extensive studies and vast experience, in a lifetime of beekeeping, have more or less fortified me against the ravages of the thorns and stubble, so often coincident with the grueling escapades of general apiculture, and qualified me to speak with authority and firm conviction on its varied topics of discussion. Therefore, I dare venture to say, that the novice will fare much better entering this highly specialized and difficult field, with his sleeves rolled up and his brows sweating (and to stick to this modus operandi until such time as he has had at least a small measure of practical experience), than he would to delve into the project basing his hopes of success and progress on theory alone. As Les Berwick has also wisely said: "Anybody c'n play arround with a few hives, an' keep a few bees; but it takes a heap o' s'perience fer a man t' play arround with a few hives an' hev' th' bees keep him."

And this brings us to that little matter involving equipment; the "little" item that can so easily become the "big" stumbling block for the beekeeper, and forever stamp him as an amateur, or list him as an outstanding professional. If it were not pathetic it would be amusing, to see beekeepers (not all beginners, either) buying up old and odd-sized hives, frames and covers at a bargain sale, that will in short order, tend to jeopardize their chances for

successful beekeeping and retard their progress to a remarkable degree.

What I have always stressed at the outset for the beginner in bee-keeping (and this goes for the gnarled and seasoned beekeeper as well, if he hasn't learned his lesson) is standard equipment in the line of hives and internal fixtures. Any frame that is not interchangeable with another frame is an abomination in the busy beekeeper's apiary and should be discarded. Any hive body that is not standard size and doesn't fit interchangeably with any other hive body in the bee yard will make a lovely box to put apples or potatoes in, if you nail a bottom onto it, or it will make a dandy ash-sifter if you tack a screen over the rim, but it's no good as a hive body if the beekeeper really wants to make a success of the bee business.

In my own apiary I even go so far as to outlaw any warped or misshapen frames, covers, or bottom boards that would, by their persistent obstinacy, hinder the normal modus operandi consistent with dexterous and rapid manipulation of the colonies.

And there is also that ever-lurking, hideous ogre—bee disease, to be considered. Old, second-hand hives and frames containing brood combs (new or old) that have had colonies die out in them are just the thing in which to develop a ripe and rank case of devastating foulbrood (either variety), and right here is where the subject of "cures" versus preven-

tives relating to foulbrood disease, comes in. The old and time-worn proverb—"an ounce of prevention is worth a pound of cure," is doubly applicable to the bee business, and especially where foulbrood is concerned. But I am not going to advocate preventives from the standpoint of antibiotics, for I will frankly admit that I am not in favor of the continual feeding (infusion) of drugs, such as sodium sulfathiazole, terramycin, and so forth, merely to halt temporarily the possibility of infection.

This persistent feeding of "dopes" as a "cure" for foulbrood is nothing more than a compromise, and to me seems almost like putting the bees on crutches; for, insomuch as any permanent "cure" is concerned, that is about what it all adds up to in the long run anyhow. Actually, it is like using eye-drops to "cure" myopia; or like taking sedatives to effect a "cure" for decayed and aching teeth.

In contrast to all this, the only reliable safeguard against disease is total immunity to disease. This condition can be arrived at only by the breeding of disease resistant stock exclusively, and my apicultural efforts through the years have been pointedly directed toward that end, with very satisfactory results. I shall have more to say regarding this line-bred stock and its possibilities, in subsequent articles pertaining to bees and bee culture.

Vermont

George H. Vansell Passes

With deep regret we report the sudden death of an outstanding teacher and research worker in beekeeping, George H. Vansell, who passed away suddenly on October 21 of a heart attack.

Van, as he was known to his friends, was born in Muscotah, Kansas on January 8, 1892. He graduated from Kansas University in 1915 and received his M.S. degree from that institution in 1917. He also took graduate work at Harvard, California and Stanford in later years. He was a member of the faculty of the University of Kentucky from 1915 to 1922 and of the University of California from 1922 to 1931 when he accepted a position with the USDA in Bee Culture at Davis, Calif. He held the rank of Apiculturist from 1942 on.

Mr. Vansell was a keen student

of bee behavior with special reference to nectar and pollen gathering activities, but during his long, useful service to the beekeeping industry had carried on research in nearly every phase of bee behavior. He knew pollen and nectar plants of California better than anyone else and was the author of "Nectar and Pollen Plants of California" as well as numerous other bulletins, circulars, and scientific and popular articles on beekeeping. He served the Kentucky Beekeepers Association and the California State Beekeepers Association in the capacity of secretary-treasurer and was known to thousands of American beekeepers.

He is survived by his wife, Jane, a son, two daughters and five grandchildren. Van's sage counsel and sound research will be sorely missed by the industry.

J. E. Eckert, California





The Keystone of Modern Beekeeping

by George H. Rea

(Summarization of a talk before the 50th Anniversary of the Pennsylvania State Beekeepers Association.)

SEVEN events in early beekeeping make Pennsylvania the keystone of modern beekeeping. First, Langstroth, born in Philadelphia, discovered the bee space in 1848 while working with his bees on land now owned by the University of Pennsylvania. This made possible the movable comb hive, the keystone of modern beekeeping. Second, Samuel Wagner, in 1869, founded the American Bee Journal, the keystone of American beekeeping literature. Third, Wagner, with Langstroth and Colvin of Baltimore, received the first Italian bees in 1859. Fourth, Wagner, Langstroth and Charles Dadant produced one of the first honey extractors in this country. Fifth, John S. Harbison, of Newcastle, Penn., in 1857, moved 67 colonies of bees from New Castle to San Diego, via the Isthmus of Panama. Sixth, Harbison introduced the section box for comb honey. Seventh, he also shipped the first carload of honey from California in 1873 on the first freight train of the first transcontinental railroad, the Southern Pacific.

As the keystone supports the arch, so the investigations, inventions and practices of these pioneers still support modern beekeeping so essential to the great food producing program of today's agriculture.

Bee-keeping Fifty Years Ago

Log gums, straw skeps, box hives then housed a large proportion of the bees. A few had modern hives but produced honey entirely in section boxes. These few studied bee-keeping and did their best to survive against the odds due to bee disease. Whole apiaries were destroyed. Often combs from dead colonies were spread on the ground contributing to rapid spread of disease. Little was known about disease or how

to treat it. Much honey was sold in crude combs, often cut from dead colonies, to further the spread of disease. Honey from old, black combs was called "wild honey" and was regarded as pure honey, while the "new fangled" section was considered artificial.

Then there arose a star of hope in those sturdy souls who were building a better world of beekeeping based on Langstroth's movable comb hive. There was an increasing interest on the part of entomologists and horticulturists in the use of bees for pollination. A. J. Cook, at the University of Michigan and workers in Washington and Canada gave beekeepers new hope in this field and a new era for beekeeping.

Records from the American Bee Journal tell of the Pennsylvania Association having been organized in Erie in 1873. It is probable that the now defunct Philadelphia Association was organized before that. Fred Hahman of that association used to say that he thought he was the first secretary of the first association in Pennsylvania. In those days Pennsylvania beekeepers were fortunate in the presence of an aggressive leader, Entomologist H. A. Surface. His apiary was on the grounds of the State College. My first acquaintance with Surface and other leaders began in a meeting in Old Main building in 1905. Among others there of prominence were Dr. E. F. Phillips, E. R. Root, C. P. Dadant, W. Z. Hutchinson, and Charles Stuart. The Pennsylvania Association has and is playing an important role in the development of modern beekeeping and in better and greater food production on the farms. Surface was an enthusiast about the use of bees for pollination. He kept bees in his own orchard and he advocated bees for pollination in Farmers' Institutes and group meetings.

The bee inspection law, an achievement of the State Association, was passed in 1908. Without funds, Sur-

face secured the right to appoint temporary inspectors who would volunteer to work without pay with their neighbor beekeepers to transfer bees into modern equipment, destroy disease, introduce queens of better stock and try to create better interest. This had much to do with strengthening the State Association and securing funds for inspection. The writer was one of these volunteers and the first appointee.

In those days Farmers' Institutes carried the message of improved agriculture by teams of speakers from the State Department of Agriculture. It was my privilege to serve on one of these teams for several years speaking on fruit growing. I talked about the wonders of the bee, pollination, how to keep bees better and about our new Association. The Institutes were held in winter, requiring travel by train, and often by bob sled, sleigh or buggy to meeting places. Roads were often blocked with snow or were deep mud. Meeting places were often cold and draughty, but the farmers came in large numbers and hospitality was grand in their homes.

The Pennsylvania Association has always been active in the conception, establishment and progress of research, teaching and extension at the College of Agriculture, inspiring the beekeepers in more effective county associations and in the general welfare of beekeeping and its importance in fruit and seed production.

By this organized effort a bee-keeping almost ruined by antique methods and disease, has evolved into an important modern business. Recent figures compiled by Professor E. J. Anderson show that the annual value of the honey crop of Pennsylvania is about \$1,386,240, beeswax \$473,000, and, overshadowing all, is the value of bees for pollination in the state in the enormous sum of \$5,293,180.

Honey is Kind to Your Heart

No. 4

by D. C. Jarvis, M.D.

AS FAR as I am able to discover every machine of any importance that may be purchased in the open market has with it a book of instructions the reading of which enables the purchaser to make simple adjustments when needed. Unfortunately, the human machine is not born into this world accompanied by a book of instructions. We are supposed to bring from our parents instincts which will guide us in the care of our human machine and protect it from harm. These instincts guide us during childhood but when we leave the land of childhood we leave these instincts behind us. They are no longer present to guide us in the care of our human machine.

We have lost the instinct that tells us how to adjust our human machine when our emotions of fear, anger, grief and deep disgust are aroused as we live our business professional and private lives. We do not know what adjustments to make when we have sleepless nights wondering how we may meet the urgent needs of the coming day, how we are going to meet a board of directors, under-

handed competition or straighten out a tangle that has arisen in our organization.

When the emotions are aroused the branch of the nervous system which spends the stored-up energy is thrown into increased activity. The adrenal glands increase their activity and because of the emergency function they possess pour into the blood stream adrenin which serves to augment and prolong the activity of the branch of the nervous system which spends stored energy. This leads to strengthening of the heart beat, hastening the circulation of blood, suffusing the blood with stored sugar, opening more widely the air passages to the lungs and stopping digestion activities.

Under primitive conditions this device in the human body for response to aroused emotions was of major importance because one had to decide at once whether to fight or run, both of which required increased energy. But conditions under which we live have changed. Emergencies in these days most commonly call for self control and quiet thinking. Nevertheless the primitive reactions take place with results somewhat comparable to opening the throttle of an idling motor. The effect on the machinery is not wholesome. When the emotions are aroused the changes in the human body are all adapted to the putting forth of supreme muscular and nervous effort. That was what primitive battle consisted of through countless myriads of generations—a fierce physical contest of beast with beast and of man with man.

We have lost the instinct which tells us how to terminate the effect upon our body of aroused emotions. We may rediscover it by studying both domesticated and wild animals. As we study them we learn the answer is potassium, natural sugars and acid. These three are found in honey for honey is acid in reaction, contains two needed sugars and is a good source of potassium. Honey contains more potassium than any other mineral. The human body needs but little potassium in order to restore itself to a peaceful and quiet existence but this small amount is a necessity and must be furnished when needed. The human body works on a minimum of anything it needs to do its work. Potassium is a sedative to the human body and must be taken when a sedative is needed.

You can be kind to your heart if you use honey each day. When your emotions are aroused and your heart beat is speeded up and the beat is strengthened remember the brake on the heart mechanism is represented by potassium found in honey. You learn as you drive your car how to skillfully use its brake. Why not learn how to skillfully use the potassium brake provided by nature with which to control your emotions. This emotional brake is found in honey. By using it when needed you will have regained one of your lost instincts which nature intended you should possess. At the same time you will be kind to your heart by making its work easier.

Vermont



From the Honey Plant Gardens

by Melvin Pellett

FROM our correspondence come interesting questions and information pertaining to bee pasture problems in various sections which will be of interest to readers. There are practical ways to remedy the situation, especially for those with smaller apiaries where limited

Vitex incisa negundo is attractive in foliage and flower.

acreage furnishing supplemental flows may bring noticeable results in lengthening the period of brood rearing.

R. D. Oglesby of Ohio writes of his problem: "I am a small beekeeper of 50 colonies and am faced with the all-too-common problem of reeding bee pasture. Within a few hundred feet of my apiary there is a 20-acre piece of ground about half woods and half sod and brush. Would it pay to have this ground cleared and planted in some kind of bee pasture? I control this piece and could have it done if it would pay. What would you suggest it be planted in? I would want something permanent which would require no further attention if possible...."

We suggest the following: Whether it will pay in a practical way to

devote land and labor to bee pasture alone is a debatable question. But there are many ways in which honey plants may be used to serve other purposes well and at the same time add to bee pasture. When a beekeeper has some control of farming operations, he may use in farm rotations some of the best legumes to provide bee pasture. Any beekeeper, in making large or small plantings of trees or shrubs, may select those varieties which will serve an intended purpose as well as being good honey plants. Beekeepers having control of wasteland areas may start some of the more aggressive honey plants adapted to the situation which should gradually spread and be helpful bee pasture.

In my opinion, it would be doubtful whether it would pay in dollars and cents to clear land to plant bee pasture exclusively. However, I expect that the land referred to is furnishing some bee forage already as many of our native trees yield pollen, nectar or both. So one plan would be to keep what honey and pollen plants are already there and add to them. Perhaps you would eradicate some kinds of brush which do not yield nectar, possibly by chemical spray, to make way for some good nectar shrubs. Vitex incisa negundo is freely worked by bees over a long blooming period and I believe would

grow in southern Ohio. Then there are a number of perennial honey plants which you might introduce, which should grow and spread without much attention once a good start is established. Golden Honey Plant or Wingstem is one which grows in sheltered places, as along timber edges. Some others might be Catnip, Motherwort, Chapman Honey Plant and Wild Aster. There is a long list of plants which could be named for this purpose, including among the trees and shrubs, the easy-to-grow Russian Olive and Tatarian Honeysuckle.

An Iowa correspondent relates the following: "Here is our problem—we have an acre or so that we would like to put in permanent bee pasture and would like your reaction to this plan: Early next spring put in one bushel of oats and a combination of sweet clovers—Hubam, Madrid yellow and some regular biennial yellow and white. That would give us a long-lasting bee pasture especially if we added some Ohio evergreen sweet clover. How would this work out if we don't cut it, but late in the fall disc it down and leave it? How long a time would a combination of such clovers give bee pasture....?"

We suggest: Our experience with sweet clover has been that the first stand is easy, makes a heavy growth and is a well-known honey plant.

The combination of varieties suggested is good for a long blooming period. However, when we have left clover, after self-seeding, to grow a second crop, although a thick stand has volunteered at first, for some reason the second crop has been disappointing. Sweet clover is a very good honey plant to use in some farm rotations where it serves the purpose. But since there are only annual and biennial varieties it is only a temporary crop. Birdfoot trefoil, although slower to establish, should give a good permanent pasture though probably not as much nectar as sweet clover.

We have received the following from a correspondent in Oklahoma: "Thought I'd send you some tree seed that I can't identify—there are two trees in my brother's yard, bees work them all the time during vetch flow so they must be rich in nectar—they bloom until frost...."

This seed looks like that of Vitex incisa negundo, although we cannot be certain of the variety from identification by seed alone. The above named is about the best nectar-yielding shrub (or small tree) we know, considering both the vigorous bee activity on the flowers and the long blooming period. Apparently we may be near the northern limit of its range in this section as the tops kill back some winters.

The XV International Congress

By Jas. I. Hambleton, U. S. Department of Agriculture,
Agricultural Research Service, Entomology Research Branch.

ANOTHER international apicultural congress is now a matter of record and memory, and another country has demonstrated its charm and efficiency in being host to the beekeepers from the far corners of the world who met at Copenhagen, Denmark, August 30 to September 4, 1954.

Beekeepers are not unlike bees. One always marvels at the perfection and orderliness of a colony of bees, how without any visible evidence of a guiding hand or head its work is accomplished. It is the invisible spirit and the will to live and to work together that welds the separate units into a purposeful whole. The beekeepers of many nations and tongues became one body at Copenhagen. The flux was their own feeling of friendship while all the material wants were there through the

magic and effort of the hard-working and unobtrusive Mr. B. Schwartz-Hansen, president of the Congress, and Dr. Ole Hammer, head of the beekeeping research work in Denmark.

At the congress there were beekeepers from more than twenty countries from Japan to Canada and from both sides of the Iron Curtain. Political differences that may exist among nations were not manifest. Everyone was welcome, and everyone exercised the right to comment and to criticize. Russia participated for the first time in several years. The U.S.S.R. sent two official delegates, and both East and West Germany were well represented. Canada and the United States bettered their attendance over the two previous congresses. Dr. and Mrs. C. A. Jamieson, Mr. and Mrs. Harry W.

Jones, and Professor G. F. Townsend very creditably represented Canada. Mr. and Mrs. G. L. Sanders, Grand Junction, Colorado; Mrs. Claude Yates, Hartford, Connecticut; Mr. Woodrow Miller, official representative of the American Beekeeping Federation, and I made up the delegation from the United States.

Official figures were not yet compiled at the close of the congress, but it was rumored that France led in attendance with over 175, and that England was a close second. Denmark, Germany, and Switzerland sent large groups. Spain was represented by two staunch supporters of these international meetings, Mr. and Mrs. M. Cabezas of Madrid. Japan was present in the person of Professor K. Sasaki of Tokyo University.

So many scientific papers were offered for reading that it became necessary to have two sessions running simultaneously. Thus one person was not able to hear more than half the papers given. The papers

(Continued on page 475)

You Asked for It...

Wallace Coleman, Florence, S. C.

I have twelve hives of bees and every winter I have trouble keeping worms out of the hives. I have them two feet from the ground on a bench with the legs setting in cans of oil. I have one hive on the ground but have no trouble with it. How can I keep the butterflies out of the hives?

You want to know how to keep the butterfly out of the hives. I presume that you mean wax moth miller. There is no way, really, to keep them out of the hive. If your colonies are strong in bees, they will take care of the moth. There may be moth eggs layed in the hive, but as long as your bees are strong in population, the moth will not do too much damage, the bees will find the wax moth larvae and carry it out. The strain of bees play a big part in the wax moth situation. Black bees are docile and will put up with the wax moth, and eventually the colony is destroyed. 3 banded Italian, or Starline hybrid bees will keep the wax moth under control as long as the strength of the colony is good.

Setting your colonies on a bench with the bench legs setting in cans of oil is an excellent way of keeping ants out of the hives, which is important, but will not keep the wax moth out as they fly. Most of the moth damage is done at night, and in the fall of the year.

Noel A. Parks, Hamden, Mo.

I have had two years' experience in keeping bees, having seven colonies now. I have one colony that is diseased. Would you advise me to try to clean it up with sulfa?

I believe in sulfathiazole very much, for the prevention of A.F.B. And I believe diseased colonies that haven't gotten too bad can be cured by the faithful use of sulfathiazole. But, I also maintain that only an experienced beekeeper knows just how to go about it, without spreading the disease to all the other colonies.

I would suggest, since you are a comparatively new beekeeper, that you gas the bees in that colony,

(See next page)

California Honey Board Elects Queen



L. to R.: Wendell Shore, Chairman of Advertising Committee of California Honey Advisory Board; Mrs. Clarence Ward; Ray Reed, Board Chairman; Nina "Honey Bear" Warren, daughter of Chief Justice Earl Warren; Mrs. Hood Littlefield; Hood Littlefield, Co-Chairman of the Advertising Committee; Hans Schumacher, Research Committee Chairman; and Clarence Ward, member of the Board.

This scene took place on the citrus ranch of beekeeper Clarence Ward in Azusa, California. The purpose of the occasion was for some publicity and movie news shots for National Honey Week. Miss Nina "Honey Bear" Warren is currently attending the University of California at Los Angeles. She is a great booster for California agriculture as is her famous father, Earl Warren, formerly Governor of California. She won the hearts of all who worked with her on the publicity production by her gracious and cooperative spirit. The whole industry is indebted to Miss Warren for the boost she has given National Honey Week.

California Honey Goes on Television



Bob Hartman, Hemet beekeeper and member of the California Honey Advisory Board, was the star on "Panorama Pacific," a telecast which originates in Los Angeles over the Columbia Broadcasting System and is released in San Francisco, Los Angeles and San Diego.

This was a 15-minute program, the first part of which was taken up with the fundamentals of beekeeping. The second part was the discussion of beeswax candles. The props for this part of the show were furnished by Bee Industries of Alhambra. The third and most important part was honey itself.

In the picture, left to right are Kermit Wilson, Manager of the California Honey Advisory Board; George Wolf, who does all the agricultural activities on the show; and Bob Hartman, beekeeper.

Notice that the cameramen and the director have bee veils, a touch of humor which the producer decided to add for publicity.

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For the Beginner

by Frank E. McLaughlin

I hope other beekeepers had a better year with the bees than I had. The honey situation looked very promising, but then the dry hot weather hit. This fall, when I prepared my bees for winter, I had to kill some very fine queens and unite colonies together in order to get some of them through the winter. I don't know how many will survive until early spring. They definitely will have to be fed then. Many of my friends who have bees had to do the same thing.

The question has been asked, "Why not close the bottom entrance completely in winter, leaving only an auger hole in the back of the hive near the top?" There are always some bees that die in the hive in winter. On warm days when the bees can fly, they carry the dead bees out. It has been my experience that if the bottom entrance is not left partially open, the bees have no way to remove the dead bees from the hive, and in the spring there will be a gummy, moldy mess of dead bees on the bottom board which makes an undesirable condition within the hive.

In the bee colony it is always survival of the fittest. Any old bees

that are worn out are carried out by the other bees and left to die. The same procedure is followed with young bees that are crippled or deformed in any way.

When summer activity has ended for the bees they will, at different times on warm days, scrub the entrance board. Why they do this is not known as the entrance board always looks the same to me after they do this as it did before.

On warm days in winter when the sun is shining, the bees are apt to have play flights. This very much resembles robbing. They will fly around the hive within a radius of 25 feet or so. Bees will be coming out of the hive and entering the hive. This keeps up for around five minutes, then as though they have had their romp, they settle down as before.

To every reader I extend my warmest friendship and best wishes for a Merry Christmas and a Happy New Year. I appreciate very much my letters from beekeepers everywhere and enjoy trying to help them over some of the rough spots. I hope to be of more assistance in the coming year.

You Asked for It...

burn the combs, and boil all the equipment for 20 minutes to a half hour in water and household lye solution, turning the equipment, until all the equipment has been boiled. Rinse the equipment in plenty of clear water, allow to dry before using. I won't say that boiling in lye water is 100% safe, but it is the best thing that I know to do, short of burning all of the equipment.

You see, if there is one colony in a bee yard that is diseased, it can spread in so many ways, until your whole yard is diseased. The bees can spread it by robbing the diseased colony; you can spread it by using the same tools and equipment, when working the bees. So, extreme precaution must be taken, when disease is in the yard.

John Krueger, Deloit, Iowa

I have a bee yard located in average farm territory. These bees are wintered colonies and were supered with drawn comb supers. When I extracted the honey from these colonies about $\frac{1}{4}$ was granulated. Some in every super. These combs were absolutely dry when given to the bees in spring and early summer. The honey is about average color and flavor for this locality.

Are there any flowers that the bees may have worked on that would cause this? Or would feeding dry sugar early in the spring cause this? My other yards do not seem to be that way.

Yes, some types of honey granulate much faster than others. Alfalfa honey, for instance, granulates very rapidly.

Some beekeepers store the wet combs after extracting without putting them back on the bees for cleaning up, and they are not used again until the next season. The little bit of honey clinging to the combs will granulate. Then when the combs are given to the bees the next season, the new honey will granulate also. Sometimes the small granules cannot be seen in the combs, but they are there. All extracted combs should be given back to the bees long enough for the bees to clean the excess honey off of the combs and frames, before storing away.

Recent Russian Research

A new booklet of 40 pages by the Bee Research Association is entitled "Some Recent Russian Researches on Bees and Beekeeping." Translations are by Marie Simpson.

Some of the subjects treated are Behavior of Queens, Development of Swarming Instinct, Artificial In-

crease, Queen Rearing, Reciprocal Feeding Between Bees, Behavior of Bees, Mating of Queen and Drone, When are Drones Sexually Mature, Honeydew Honey.

Copies of the booklet may be obtained by sending 75c to Hon. Publications Secretary, 2 Northover, Bromley, Kent, England.

Dr. Eva Crane's Trip To North America

The Central Association of Beekeepers, Mrs. M. E. Horton, Sec., at 8 Gloucester Gardens, Ilford, Essex, England, has reprinted from the Bee World Dr. Crane's address to European Beekeepers meetings on her trip to North America in 1953. I had previously read it in the Bee World, but the bulletin is fascinating and was eagerly re-read, particularly the comparison of their beekeepers and beekeeping to ours here in America. The 16-page pamphlet is available from the address above at 1/6 or we here at the American Bee Journal will be glad to have orders for copies at 25c each and expedite them to you.

Eastern Regional Honey Queen

R. B. Willson, Regional Chairman for the National Honey Week Campaign, sends this picture of pretty Miss Joan Upton of New York City, who was chosen Honey Queen for the observance of National Honey Week, October 25-30. The entire food trade, including honey packers, wholesalers, and all retailers of foods, carried out elaborate plans for the promotion of honey during this period.



Michigan Honey Queen On Parade

Kenneth Hazard, Beeville Apiaries, Highland Park, Michigan, really caught the spirit of the Michigan Honey Week celebration at the State Fair in Detroit in these pictures. Maxine (right) in a Chevrolet convertible waved her greetings in a ten-mile parade before 200,000 people. She was also seen each night in parade at the Fair Grounds. The Detroit district Chevrolet people furnished convertible

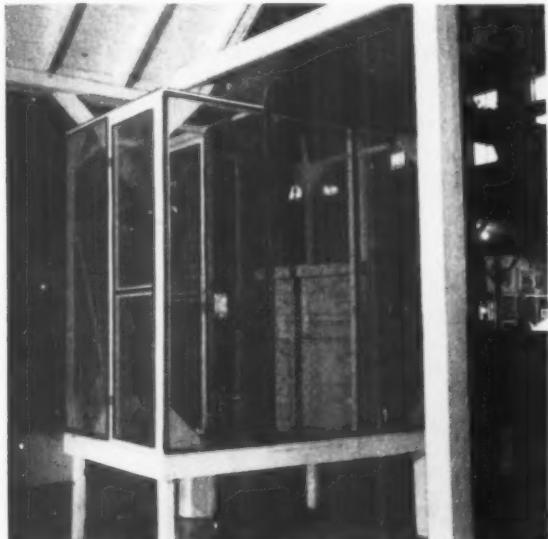


Maxine Koss, Michigan Honey Queen.

and driver, with money for signs and decorations. Said the signs: "Maxine Koss—1954 Michigan Honey Queen" and "For a Honey of a Car Buy a Chevrolet." The float in the picture at bottom left sat in front of the Chevrolet Exhibit Hall where hundreds of thousands of people passed it and read "Eat Michigan Honey—You'll Favor the Flavor." Third picture is the honey float that followed the queen in the parade.



From Here and There



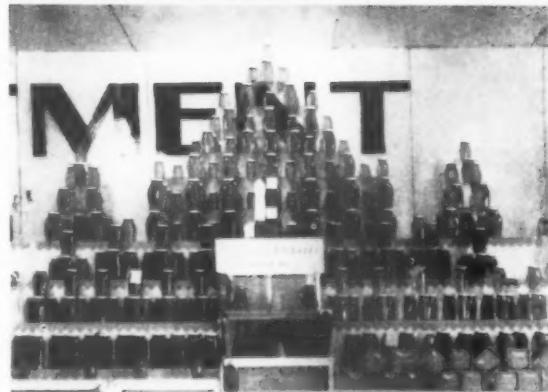
Missouri State Fair

This year Missouri again had a very successful State Fair and one of the most attractive exhibits was the honey and beeswax exhibit in the Apiculture Department. Quality was high and competition keen. Professor C. F. Stiles, Oklahoma A & M, was the judge. Edward (Buz) Christian of Sedalia took top honors (top, left); with Carl Kalthoff, Lexington, a close second (lower right). The number of entries in honey cookery was low. Mrs. Mary Elizabeth Cox, Springfield, was the judge.

One of the highlights occurred when Mrs. Christian presented the Governor with samples of the Blue Ribbon comb and extracted honey. The Commissioner of Agriculture, L. C. Carpenter, and the Fair Secretary, Ross Ewing, were also presented with honey. One of the most interesting exhibits was the 4 x 6 screened cage with a complete colony of bees (top right). It was seldom that there were not people gathered to watch the bees, especially when Julius Anderson, State Entomologist, gave demonstrated talks on the colony and how to handle bees. The weather was hot and the bees irritable so the audience was usually successful in their desire to see the demonstrator get stung.

As a suggestion for such a hive exhibit, a 6 x 6 cage would be more satisfactory, with a wooden outlet instead of the tin stove pipe which was used at the Fair. The tin became too hot for the bees to use except in the early morning and late evening. A light misting with water several times a day kept the bees comparatively quiet.

Julius R. Anderson, State Entomologist



Wisconsin

Boosting Honey

Wisconsin Department of Markets plugged for honey as a health and energy food, during the broadcasts of the University of Wisconsin football games in 1954. The same action will be taken for the basketball games during the 1954-55 winter season. Thirty Wisconsin broadcasting stations participate.

Association News

Vernon G. Howard, Milwaukee, at the association meeting October 29, was unanimously elected State President. He served two years as first vice-president, as treasurer, and as chairman of the legislative committee. He is manager of Howard's Honey House, a retail and wholesale outlet. In the past several years he has also been an inspector for the Department of Agriculture.

At the 76th annual convention banquet, President William Judd presented a trophy of award to Rev. Louis Moser as Wisconsin beekeeper of the year. He was selected for the honor by the District Chairmen. He

is a resident and a beekeeper in the Southeastern District.

First Annual Beekeeper of the Year

The Wisconsin State Beekeepers Association through its wise and resourceful District Chairmen will present some member beekeeper with a trophy or similar item significant of his record during the past year.

The District Chairmen shall each select one beekeeper from his district, shall present his or her name to the other Chairmen, advance the cause of his choice by all fair means and participate in the balloting to select the winner who must receive more votes than any other contes-

tant. This selection shall be made at a closed meeting the evening before the general convention opens and results kept until the presentation by the winner's District Chairman at the annual banquet. Once designated Beekeeper of the Year the winner is thereafter ineligible for further nomination. Officers of the Association may well decline nomination during their terms of office.

We know there will be need to study the persons and records in each district so as not to unfairly overlook anyone. All District Chairmen shall participate in order that the final selection be of utmost value to their constituents and the person selected.

Officers for 1955

The following officers were elected for the coming year: President, Vernon G. Howard, Milwaukee; Vice President, Harold Richter, Whitehall; 2nd Vice President, M. L. Osborne, Beloit; Rec. Sec. Treas., Mrs. Louise Bruggeman, Menomonee Falls; Cor. Sec., Alan Vosburg, Ft. Atkinson.

A committee was appointed to study means for raising money for honey promotion and advertising.

Arkansas

Eleventh Annual Meeting

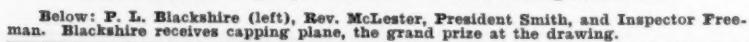
There were over 150 beekeepers at the Arkansas eleventh annual meeting at the Lyric Theater in Harrison, Oct. 11. Dr. Charles Lincoln, Entomologist from the University, was the principal speaker at the morning session, on "The Beekeeper and Insecticides." M. G. Dadant, of the American Bee Journal, was the principal speaker at the afternoon session, on "Royal Jelly, and the Uses of Beeswax."

W. H. Smith was re-elected President; Homer Richard, Eldorado, re-elected Vice President; Mrs. Rea H. Davis, Secretary. Galen Price of Harrison was recommended to the Governor to replace S. J. Head on the Apiary Board. Guy Shaw, a member of the State Executive Committee, presented a resolution to suggest a five-member Apiary Board so that each of the four associations of the state would have a representative on the board, with one member at large. It was recommended for further study.

The next annual meeting will be in Little Rock.—Mrs. Gladys McKay.



Above: Registration group at the Arkansas State Meeting at Harrison.



Washington

Western Washington

We had one of the worst bee years in my memory and I cut my teeth on a beehive. We had a short crop in 1953 which left the hives short of winter stores. Our bee year starts in March when we make our first feed inspection and around the 15th of March we check again and add pollen to help brood rearing. Our first honey from soft maple starts about April 15. At this time we must have our bees inspected for A.F.B., lathed and screened, ready to move to the apple orchards. I move about 200 and it is 340 miles one way.

The weather for the first two weeks in April was from 19 at night to 45-50 daytime. The bees hardly flew and I believe our gray bees will fly better at low temperature than the yellow ones will. The bees were light and weak when we moved out of the apples.

We moved into the last of the wild blackberry flow on our return trip but again the bees just made a living. All through spring and until the middle of July the bees could not store any honey and the weaker ones had to be fed. The vetch flow usually starts around the middle of June but this year it was so cold and wet I only moved 100 colonies into the vetch and kept the rest close where I could feed them. The last half of June and the first half of July we had our summer. I got some increase made during this time but no queens raised. Nine months of rain and cold weather is one sure way to control swarming.

During this time the fireweed, which is our main flow, was growing well and the outlook was rosy, ideal weather, with plenty of moisture in the ground, a temperature around 70-75, and humidity of 20-30%, fog in the morning, clearing off around 11. But this year the temperature stayed down. The plants developed to a certain point, but as it was so cold and wet, only about a third of them bloomed. Bees would rob any day all through the flow. As near as I can remember we had two or three days of good flow. As a result of all this my average per colony was six pounds. Two years ago it was 175 pounds.

These conditions were general over western Washington and the western parts of Oregon and British Colum-

bia. I understand some of the Oregon bee men are melting up their equipment. This is the second poor year for us on the coast.

The fireweed is a wild flower that grows on logged off lands after the timber is cut and, once seeded, lasts 10-15 years. We have few flows from cultivated crops, only vetch, and that is going out. Now as soon as the timber is logged off, they plant the land to trees in reforestation, so our natural pastures will soon be short. Apparently all business goes through periods of readjustment and beekeepers will have to do that here in Western Washington.

Roy L. Cox, Elma

Indiana

Crop

Indiana's honey production dropped to one of the lowest figures recorded in recent years. The 1954 total production was 4,628,000 pounds as compared to 6,300,000 in 1953; 6,840,000 in 1952 and 8,160,000 in the peak year 1951. It will be noted that there has been a continual decline in honey production in Indiana since 1951, with the biggest drop this year.

The Hoosier Honeys

The Hoosier Honeys elected the following officers for the coming year:

President, Mrs. Forrest Nicholas, R. No. 3, Auburn; Vice President, Mrs. Wesley Collings, Bloomingdale; Secretary, Mrs. Paul Champ, Twelve Mile.

Our records show that Indiana has a surprisingly large number of women who are actual beekeepers; that is, they personally handle the bees from the hiving of swarms to the removing of supers and preparing and marketing the honey.

Many of these are expert beekeepers with records of management and honey production rivaling that of our expert men beekeepers. Quite a few of these women beekeepers are members of the State Association and are subscribers to a number of bee magazines. Possibly our oldest woman beekeeper in Indiana is Mrs. Nancy Gibbons of Clark county. Mrs. Gibbons is 91 years of age and

our inspection records show that her five colonies of bees, all in ten frame modern hives, are well cared for and in splendid condition. Mrs. Gibbons does all the work required in handling these bees.

Colorado

13 Radio Stations Air National Honey Week Program

Thirteen Colorado radio stations carried a program about honey and bee culture during National Honey Week. This 13.5-minute program described the beekeeping industry in Colorado, the uses of honey, and the value of bees as pollinators. Mel Eckard of the Colorado A and M News and Radio Service, interviewed Joseph Moffett on this program. The stations carrying this program were KVOD and KIMN (Denver), KBNZ (La Junta), KEXO (Grand Junction), KCOL (Fort Collins), KFKA (Greeley), KGIW (Alamosa), KUBC (Montrose), KLMR (Lamar), KRAI (Craig), KFTM (Fort Morgan), KSLV (Monte Vista), and KRDO (Colorado Springs).

Two Articles Sent to Newspapers by Ken Goodrich

Ken Goodrich of the Colorado A and M News and Radio Service sent two articles to newspapers throughout Colorado just before National Honey Week. A few of the papers that carried these articles were the Colorado Springs Free Press, the Colorado Springs News, the Monte Vista Journal, the Meeker Herald, the Ignacio Chieftain, the Antonito Ledger-News, the La Jara Gazette, and the Delta Independent.

These two articles told about National Honey Week and the beekeeping industry in Colorado.

XV International Congress

(Continued from page 469)

covered the whole field of beekeeping. If there was any concentration in topics, it was in bee diseases. A short discussion period followed the reading of each paper. Here as elsewhere during the congress our able translator, Miss Nora Baldensperger of Nice, France, and Dr. Gertrude Kolisko of Great Britain, helped us out of many difficulties. These remarkable women are at home in several languages and were the busiest persons at the congress.

There was talk that at future congresses encouragement would be

given to the inclusion of more papers on practical beekeeping. These meetings must be kept well balanced in order to be of interest and great benefit to all branches of the beekeeping industry.

No account of the congress should be attempted without including a discussion of "Apimondia," the name adopted for the international organization of beekeepers. At the moment the name is more real than the organization. The form of the latter has been discussed at previous congresses and at special meetings called for the purpose. The scope and aims of the proposed organization have been the subject of many heated debates by our European colleagues. It is not possible in this article to give the history of the past efforts to organize on a world-wide scale or even to give a clear picture of its present status. If Apimondia does nothing more than sponsor and give stability and precedent to future congresses, its existence would be justified.

The secretary-general of Apimondia, Dr. Otto Morgenthaler, called an open meeting of all beekeepers in attendance at the congress. One matter of business was to accept one of the invitations for the next congress which were pending from Spain, Algeria, France, Austria, and Yugoslavia. To expedite matters, voting was confined to the official delegates from the various countries. After several ballots, the meeting was confronted by a tie vote between France and Austria. Three more ballots

and Austria won. The XVI International Apicultural Congress as a consequence will be held in Vienna, Austria, in 1956.

To defray expenses of operating the office of the secretary-general it was voted that each country caring to support the organization would be asked to pay a minimum of 10 English pounds annually, or for the United States, \$28.

Dr. Morgenthaler, recently retired as head of the famous government bee research laboratory at Liebefeld, Bern, Switzerland, and who has carried most of the burden of Apimondia, voiced his desire to turn the reins over to someone else, but he was finally persuaded to hold the office until the next congress. A man known and respected throughout the bee world, Dr. Morgenthaler is ideally suited for this post. He knows not only the language of bees but the languages of beekeepers, whether they speak English, German, French, or Italian.

Apimondia deserves our active support, a support which beekeepers in other countries would appreciate. Beekeepers of the United States are highly thought of throughout Europe. Sometimes I found it a little embarrassing when European bee-men talked in such glowing terms of American beekeeping. It was also obvious that many beekeepers would welcome an invitation from the United States to hold a congress. They want to see what we are doing and get acquainted with us.

The meeting at Copenhagen spon-

sored several submeetings of special groups. I shall mention only three. Monday and Tuesday following the congress, all the research workers were invited to meet at the bee research laboratory at Strodem, about 25 miles from Copenhagen. Close to 60 persons used the two days to discuss research problems of common interest. The group numbered many famous names in bee research.

Dr. Anna Maurizio, of the Liebefeld, Switzerland, bee laboratory, called together a group interested in honey and pollen plants. Dr. Maurizio heads the commission for Bee Botany of the International Union for Botanical Sciences. This group of research workers is fostering investigations in pollen analysis, honeydew, nectar secretion, protection of bees against poisoning, and other bee-plant relationships.

At another meeting the editors of the bee journals discussed how to facilitate the exchange of information and to cooperate more closely for the good of beekeeping throughout the world. The moving spirit of this meeting was Dr. Eva Crane, editor of the Bee World and director of the Bee Research Association of Great Britain. It is too bad that none of our own bee journal editors were present. Since the editors are the voice of the bee industry, nothing but good can come from the closest possible collaboration among these influential men and women. It was good to note that our own journals are universally considered to rank high.

Mr. and Mrs. B. Schwartz-Hansen of Copenhagen. Mr. Hansen was the efficient and hard-working president of the Congress.



International beekeepers, left to right: M. Cabezas, Spain; Dr. Otto Morgenthaler, Switzerland; Dr. H. Gontarski, Germany; Mrs. and Dr. Antonio Balli, Italy; Dr. D. J. Campbell, Great Britain; Woodrow Miller, United States, representative of the American Beekeeping Federation.



Dr. Eva Crane, editor of Bee World and director of the Bee Research Association, in front of the Danish sign proclaiming the Congress.



Part of the 175 French beekeepers who attended the Congress, posing in front of the famous Danish mermaid in the harbor at Copenhagen.



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LET'S GET TOGETHER

Oregon State Beekeepers Assoc. Medford, Dec. 3-4

The Oregon State Beekeepers Association will hold its annual convention at Medford on December 3 and 4 with headquarters at the Medford Hotel. Friday, the 3rd, the program will deal with pollination and allied problems, climaxed by a panel discussion of pollination problems. Saturday, the 4th, there will be speakers on various topics of interest to beekeeping. The State Enabling Act will also be presented and discussed. This will be an important meeting for all members.

Oliver Petty, Sec'y

Colorado Beekeepers Assoc. Denver, Dec. 13-14

The Colorado Beekeepers Association will hold its annual convention at the Auditorium Hotel in Denver on December 13 and 14.

G. H. Rose, Program Chairman

Westchester Co. Beekeepers Assoc. New Rochelle, N. Y., Dec. 19

The Westchester County Beekeepers Association will hold its next meeting at 2:30 P.M., Sunday, Dec. 19 at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y. At this time we will have our Christmas party. Movies will be shown, refreshments will be served and a good time will be had by all. All beekeepers and their friends are invited.

Carlton E. Slater, Publicity

Middlesex Beekeepers Assoc. Waltham, Mass., Dec. 18

The next meeting of the MIDDLESEX COUNTY BEEKEEPERS' ASSOCIATION (MASS.) is scheduled for Saturday, December 18, at the Waltham Field Station. Inasmuch as this will be our Christmas meeting, arrangements are being made for

an exchange of small gifts among the members.

Because of the many requests the association receives to present bee exhibits for various organizations, a committee has been established to plan and produce both indoor and outdoor exhibits which can be used when such requests are received. The association feels that the efforts of the committee will be most worthwhile in presenting to the public information on bees and beekeeping.

L. C. Proctor, Secretary

American Beekeeping Federation

Jan. 25-29, 1955

Program

The program for the Annual Convention of the American Beekeeping Federation is nearly complete. As previously announced, the main theme is Marketing. Mr. S. Joaquin Watkins and Mr. Roy Grout have prepared a fine program. They have arranged for the leading marketing specialists in North America to appear on the marketing section of the program.

The research section presents: The latest information on influence of soil fertility on legume seed production and new information on colony condition and placement for effective pollination; the use of genetics in breeding a better bee; the latest research in handling honey by the beekeeper, packer, and commercial consumer and the latest research results in the use of antibiotics in controlling diseases, discussed by the men who have developed the research.

Mrs. Schaefer, the President of the Ladies Auxiliary, has announced an interesting program and social gathering for the ladies.

The "500" club will have its usual instructive meeting. A group of non-commercial beekeepers have requested a special meeting for one of the evenings.

The Honey Advisory Council will report on its achievements in a special meeting.

Every effort is being made to make this convention as interesting and informative as possible. Registration cards for reservations at the Sherman Hotel, Chicago, convention headquarters, may be obtained from

R. H. Banker, Secretary, Cannon Falls, Minnesota. These cards will then be honored by the Sherman for a reservation by mail.

The Cook DuPage Association is host and a fine entertainment has been prepared by that association. They say they expect 1000 people!

Newman I. Lyle, Chairman
Program Committee

Ladies Auxiliary Program

American Beekeeping Federation Sherman Hotel, Chicago, Ill.

January 26, 6:30 P.M.

Hostess—Mrs. Wm. Wallanches.
Invocation—Mrs. Sherman Cook.
Welcome Address—Mrs. Carl Killion.

Response—Mrs. Carl Soder.

"Honey, the Oldest and Best Sweet"—Mrs. Harriet M. Grace, American Honey Institute.

Report—Auxiliary Meetings and Past Presidents — Mrs. Newman Lyle.

Treasurer's Report—Mrs. Robert Walstrom.

Group Singing—Door Prizes.

We hope all attending can give some report on the use of honey or on honey exhibits.

Cookies and coffee will be served after the program. Cookies will be furnished by the ladies of the Cook-DuPage County Beekeepers Association. Plans are being made for a tour of interesting sights in Chicago, also to attend a Television Program.

See you in Chicago, Jan. 26, 1955.

Mrs. Henry Schaefer,
Auxiliary President

Annual Meeting

American Bee Breeders Assoc. Hattiesburg, Miss., Jan. 8

Speakers who have accepted invitations to speak at the ABBA meeting at the Forrest Hotel in Hattiesburg on January 8 are as follows:

N. C. Jensen, Macon, Mississippi; M. S. Fortune, Mayhew, Mississippi; E. C. Bessonot, Donaldsonville, Louisiana; and G. H. Cale, Jr., Hamilton, Illinois.

Confirmation of other speakers and complete details of the program will appear in the January issue.

L. H. Little, Program Chairman

The Market Place . . .

BEES AND QUEENS

THREE-BANDED Bees and Queens of two extra good races, Dadant's Starline and our regular strain, and are bred in separate yards. Write for prices on packages and queens. Alamance Bee Company, Graham, N. C.

FOR SALE

FOR RENT OR SALE—83 acres, tobacco, dairy, bees. Edward Zajicek, Gays Mills, Wis.

200 ten-frame full depth supers with nine frames, \$1.50 each. Ten-frame metal covers with inner cover, \$1.00 each. Bottom boards 50¢ each. Equipment in good condition. In central Minn. Box X, c/o American Bee Journal.

FOR SALE—50 colonies or less of bees. No disease. Illness. Ralph Tiensstra, Oak Glen, Lansing, Ill.

QUEEN REARING and package bee equipment. Box 388, Picayune, Miss.

FOR SALE—Our entire bee business consisting of about 650 colonies bees, two-story, full depth equipment, in good condition. Equipment to handle 700 colonies for extracting. Can buy all locations, the best in the state. Will sell with or without extracting plant. Good combs, 45-fr. extractor, boiler, uncapping machine, etc. All must go. Our bait business has increased to where we must sell the bees. Fred Gould & Sons, Angola, Ind., Rt. No. 3.

MODIFIED DADANT equipment, new and used, bargain prices. No disease. Hives, frames, foundation, supers, etc. Also 100 cartons pound jars cheap. John McColl, Tecumseh, Mich.

BEES FOR SALE—Standard 8 or 10 frame two-story strong colonies for May and June delivery. Reasonable terms. Eugene Walker, Rt. No. 2, Box 207, Live Oak, Calif.

FOR SALE—65 10-fr. hives bees with 4 extracting supers. E. A. Quivey, Bowen, Ill.

FOR SALE—1000 8-frame supers with frames. Very good condition. Sterilized. E. H. Wadleigh, Monte Vista, Colo.

HONEY and BEESWAX WANTED

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, Calif.

WANTED—Dark honey, small or large quantities. R. L. Griggs, Hancock, Iowa.

HONEY AND BEESWAX WANTED in trade for supplies or cash. Hodgson Bee Supplies Ltd., 565—13th Ave., New Westminster, B. C., Canada.

WANTED—Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

WANTED—Honey, amber or light, in any amount. Send sample for prices. Holland Honey Cake Co., Holland, Mich.

HONEY WANTED—Highest prices paid. Submit samples in each grade. Schulte Honey Farms, Ripon, Wis.

CASH PAID for white and amber extracted honey. Send samples and state quantity available. Prairie View Honey Co., 12303 Twelfth St., Detroit 6, Mich.

WANTED—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation. Onsted, Michigan.

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

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Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

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PROFESSOR LUERSSEN'S white clover honey in new 60's, triple filtered, pasteurized, priced right. Used bee equipment and bees wanted. 1301 E. Washington, Bloomington, Ill.

LIGHT CLOVER honey, 60's, \$10.20; 10 or more, \$9.90 each. Harris Bee Supply, Jackson, Tenn.

WHITE CLOVER HONEY in sixties. Ralph Gamber, 910 State, Lancaster, Pa.

POSITIONS AND HELP WANTED

HELP WANTED for 1955—Give experience, age, height and reference. Do not apply if you drink. Howard Weaver, Navasota, Texas.

EXPERIENCED QUEEN BREEDER and package producer to manage successful going business in South. Answer in own handwriting, stating wages expected. Care of Breeder, this magazine. All replies confidential.

BEEKEEPER (35) from Netherlands wants to emigrate to U.S. Can get permit as displaced person but needs contact of job and lodging. Married, one child. Good references. Has farmed, now working in bank. Write Frans L. Vlaming, Anna Paulownalaan 9, Soestdijk, Netherlands.

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THE BIGGEST BEE SUPPLY CATALOGUE PUBLISHED (64 pages) free for the asking. Big factory manufacturing a complete line of wooden goods, comb foundation, metal goods, veils and gloves, carloads in stock, daily shipments, save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

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WANTED

BEES WANTED—Have Montana territory and 25 years' experience. Would like bees and equipment on crop share deal. H. L. Brotherson, Box 102, Greybull, Wyo.

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HONEY PLANTS our specialty. Catalogue on request. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

SECTION COMB HONEY production steps—\$1.00. Comb Honey Production Glossary—50¢. United Industries, Dept. K.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information of range sheep than any magazine published. Subscription \$1.00. Hotel Cactus, San Angelo, Texas.

TESTED FORMULA for a new kind light pure bee honey which makes it much different in taste and aroma and far superior in health quality. This improved honey has a new and strong sales appeal. Exclusive rights to formula and all sales territory east or west of Mississippi River. Price, \$950. R. Linse, 5518 North 6, Philadelphia, Pa.

BEES removed from house or tree to hive without touching either house or bees. Bees will then move honey into hive. Save property, honey and bees with my method. Send \$2 for details. Satisfaction guaranteed. George Hawkins, Rt. 1, Lawson, Mo.

KNOW interesting facts about the bees of India through the INDIAN BEE JOURNAL published in English by the Bhupen Apiaries (Himalayas), Ramgarh, Dist. Nainital, U.P., India, and obtainable from them. Subs. Rs9/-, or \$15/-, or \$2.25 yearly. Sample copy, post free, Rs1/8/- or \$2.26 or 40c (International money order). Payment in mint postage stamps of your country accepted.

Caucasian Bees and Queens for 1955

Book early to be assured of your shipping dates.

HOWARD WEAVER

Navasota, Texas

CROPS AND MARKETS

M. G. DADANT



Early cool weather throughout northern areas tended to hasten the maturity of all fall plants. While many localities were blessed with at least sufficient fall flow to warrant the bees going into winter in satisfactory condition as far as stores were concerned, bees in other locations have had to be fed liberally. In some sections beekeepers decided it was better to kill the bees in the fall and start again in the spring rather than to try to build them up to strength with sufficient stores for the winter.

The fall crop has not been of any great significance, particularly on account of the dry weather in those south central areas south of the Ohio River where aster and other fall bloom usually present a considerable part of the crop.

Moisture

While copious rains fell in late September and early October throughout northern areas and even in the Southwest, there still remain many dry areas, particularly in the Southeast and south central section of the country.

In the northern and western areas, rains do seem to have been sufficient to revive the legume plants and to lay the groundwork for perhaps more satisfactory conditions in 1955 than those met with in 1954.

As a general thing, we do not think that beekeepers are discouraged. They are at least an optimistic group and apparently the optimism is better in this fall of 1954 than it was a year ago. This is probably due to fairly good crops in some areas and, of course, the fact that what honey has been harvested has been moving satisfactorily.

Bees are going into winter in rather satisfactory condition with the question of stores paramount in

some areas and guarded against by beekeepers in most instances either by feeding or by anticipating new packages in the spring.

Honey Sales and Supplies

In years past the big deterrent on satisfactory honey prices has been the heavy California crops which were thrown on the market ahead of the harvesting of crops farther east and many times with a deleterious effect on the market and on prices. At least this year nothing of the kind can be noted. This is largely due to the fact that although California had a much better crop than a year ago, the Government subsidy program apparently engaged all of the available California honey; in fact we hear reports that it is going to be difficult to fill the contracts entered into for export of California honey to European countries. This being the case this much honey has been removed from active competition. Similar conditions have been the rule with the Florida crop and, of course, many carloads also in the northern and intermountain areas, so that a total of some 29 to 30 million pounds was contracted for under this program.

In addition, Canadian harvests being small, particularly in Ontario, the honey packaging groups in that area have seen fit to come across the border into the United States for additional supplies. Most of this has been picked up in the plain states of Nebraska, Kansas, Wyoming, and Montana, perhaps some two million pounds or more being concerned.

While the writer of this page suggested, two months ago, a price of

$12\frac{1}{2}$ c for honey, he is doubtful whether any alert producer would sell at that price at this time. In fact, California authorities are suggesting a price of $13\frac{1}{2}$ c to $14\frac{1}{2}$ c and likely this would be the prevailing figure, f.o.b. shipping point, in the intermountain area.

Supply

The greatest difficulty is that it is going to be hard to find a sufficient supply of honey to keep the markets active which, of course, is a bad thing for honey for the year or years to come. Little does it help honey conditions if an active Honey Week and fall campaign of promotion is put on and then the markets find themselves partially bare of honey. It is hoped that this will not be the case; but it certainly does not look like there would be enough honey left in the country to take care of the usual demand, plus such additional demand as has been built up by promotional work of the American Honey Institute, the Federation, as well as the many active individual producers, smaller packers and state organizations such as those in Colorado, Idaho, and California.

All in all, except for the unfortunately dry conditions throughout the South and Southeast, the possibility of drought in northern areas where earlier copious rains were scattered, and the shortages of stores in many areas together with a shortage of fall crop, bees are going into winter in fairly satisfactory condition and the prospects for honey plants for the coming season, we believe, are above average.

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